Deepwater Horizon oil spill

External video

Frontline: The Spill (http://video.pbs.org/video/1625293496/) (54:25), Frontline on PBS[5]

The ***Deepwater Horizon*** **oil spill** (also referred to as the **BP oil spill**, **oil leak**, or **oil disaster**; the **Gulf of Mexico oil spill**; and the **Macondo blowout**) is an industrial disaster that began on April 20, 2010, in the Gulf of Mexico on the BP-operated Macondo Prospect,[6][7][8][9] considered to be the largest marine oil spill in the history of the petroleum industry and estimated to be 8% to 31% larger in volume than the previous largest, the Ixtoc I oil spill, also in the Gulf of Mexico. The U.S. Federal Government estimated the total discharge at 4.9 million barrels (210 million US gal; 780,000 m^3).[3] After several failed efforts to contain the flow, the well was declared sealed on September 19, 2010.[10] Reports in early 2012 indicated that the well site was still leaking.[11][12] The Deepwater Horizon oil spill is regarded as one of the largest environmental disasters in American history.

A massive response ensued to protect beaches, wetlands and estuaries from the spreading oil utilizing skimmer ships, floating booms, controlled burns and 1.84 million US gallons (7,000 m^3) of oil dispersant.[13] Due to the months-long spill, along with adverse effects from the response and cleanup activities, extensive damage to marine and wildlife habitats and fishing and tourism industries was reported.[14][15] In Louisiana, 4,900,000 pounds (2,200 t) of oily material was removed from the beaches in 2013, over double the amount collected in 2012. Oil cleanup crews worked four days a week on 55 miles (89 km) of Louisiana shoreline throughout 2013.[16] Oil continued to be found as far from the Macondo site as the waters off the Florida Panhandle and Tampa Bay, where scientists said the oil and dispersant mixture is embedded in the sand.[17] In April 2013, it was reported that dolphins and other marine life continued to die in record numbers with infant dolphins dying at six times the normal rate.[18] One study released in 2014 reported that tuna and amberjack that were exposed to oil from the spill developed deformities of the heart and other organs that would be expected to be fatal or at least life-shortening and another study found that cardiotoxicity might have been widespread in animal life exposed to the spill.[19][20]

Numerous investigations explored the causes of the explosion and record-setting spill. The U.S. Government report, published in September 2011, pointed to defective cement on the well, faulting mostly BP, but also rig operator Transocean and contractor Halliburton.[21][22] Earlier in 2011, a White House commission likewise blamed BP and its partners for a series of cost cutting decisions and an inadequate safety system, but also concluded that the spill resulted from "systemic" root causes and "absent significant reform in both industry practices and government policies, might well recur".[23]

In November 2012, BP and the United States Department of Justice settled federal criminal charges, with BP pleading guilty to 11 counts of manslaughter, two misdemeanors, and a felony count of lying to Congress. BP also agreed to four years of government monitoring of its safety practices and ethics, and the Environmental Protection Agency announced that BP would be temporarily banned from new contracts with the US government. BP and the Department of Justice agreed to a record-setting $4.525 billion in fines and other payments.[24][25][26] As of 2018, cleanup costs, charges and penalties had cost the company more than $65 billion.[27][28]

In September 2014, a U.S. District Court judge ruled that BP was primarily responsible for the oil spill because of its gross negligence and reckless conduct.[29] In July 2015, BP agreed to pay $18.7 billion in fines, the largest corporate settlement in United States history.[30]

Contents

Background

Deepwater Horizon drilling rig
Explosion

Volume and extent of oil spill

Efforts to stem the flow of oil
Short-term efforts
Well declared "effectively dead"
Recurrent or continued leakage

Containment, collection and use of dispersants
Containment
Use of Corexit dispersant
Removal
Oil-eating microbes

Access restrictions

Cleanup

Consequences
Environmental impact
Health consequences
Economy
Offshore drilling policies

Reactions
U.S. reactions
United Kingdom reactions
International reactions

Legal aspects and settlements
Investigations
Spill response fund
Civil litigation and settlements
Justice Department lawsuit
Criminal charges

In popular culture
Film and television
Music

See also

References

Further reading

External links
Lead state agency websites
News media
Interactive maps
Images
Animations and graphics

Background

Deepwater Horizon drilling rig

The *Deepwater Horizon* was a 10-year-old[31] semi-submersible, mobile, floating, dynamically positioned drilling rig that could operate in waters up to 10,000 feet (3,000 m) deep.[32] Built by South Korean company Hyundai Heavy Industries[33] and owned by Transocean, the rig operated under the Marshallese flag of convenience, and was chartered to BP from March 2008 to September 2013.[2] It was drilling a deep exploratory well, 18,360 feet (5,600 m) below sea level, in approximately 5,100 feet (1,600 m) of water. The well is situated in the Macondo Prospect in Mississippi Canyon Block 252 (MC252) of the Gulf of Mexico, in the United States' exclusive economic zone. The Macondo well is found roughly 41 miles (66 km) off the Louisiana coast.[34][35] BP was the operator and principal developer of the Macondo Prospect with a 65% share, while 25% was owned by Anadarko Petroleum, and 10% by MOEX Offshore 2007, a unit of Mitsui.[36]

Deepwater Horizon prior to explosion.

Explosion

At approximately 7:45 pm CDT, on April 20, 2010, high-pressure methane gas from the well expanded into the marine riser and rose into the drilling rig, where it ignited and exploded, engulfing the platform.[37][38] At the time, 126 crew members were on board: seven BP employees, 79 of Transocean, and employees of various other companies.[39] Eleven missing workers were never found despite a three-day U.S. Coast Guard (USCG) search operation and are believed to have died in the explosion.[40][41] Ninety-four crew members were rescued by lifeboat or helicopter, 17 of whom were treated for injuries.[37][42] The Deepwater Horizon sank on the morning of April 22, 2010.

Play media

Supply boats continued to battle the fire, viewed from a Coast Guard helicopter

Volume and extent of oil spill

The oil leak was discovered on the afternoon of April 22, 2010 when a large oil slick began to spread at the former rig site.[43] The oil flowed for 87 days. BP originally estimated a flow rate of 1,000 to 5,000 barrels per day (160 to 790 m^3/d). The Flow Rate Technical Group (FRTG) estimated the initial flow rate was 62,000 barrels per day (9,900 m^3/d).[44][45][46] The total estimated volume of leaked oil approximated 4.9 million barrels (210 million US gal; 780,000 m^3) with plus or minus 10% uncertainty,[3] including oil that was collected,[47] making it the world's largest accidental spill.[6][48] BP challenged the higher figure, saying that the government overestimated the volume. Internal emails released in 2013 showed that one BP employee had estimates that matched those of the FRTG, and shared the data with supervisors, but BP continued with their lower number.[49][50] The company argued that government figures do not reflect over 810,000 barrels (34 million US gal; 129,000 m^3) of oil that was collected or burned before it could enter the Gulf waters.[47]

Oil from the Deepwater Horizon oil spill approaches the coast of Mobile, Alabama, 6 May 2010

According to the satellite images, the spill directly affected 68,000 square miles (180,000 km^2) of ocean, which is comparable to the size of Oklahoma.[4][51] By early June 2010, oil had washed up on 125 miles (201 km) of Louisiana's coast and along the Mississippi, Florida, and Alabama coastlines.[52][53] Oil sludge appeared in the Intracoastal Waterway and on Pensacola Beach and the Gulf Islands National Seashore.[54] In late June, oil reached Gulf Park Estates, its first appearance in Mississippi.[55] In July, tar balls reached Grand Isle and the shores of Lake Pontchartrain.[56][57] In September a new wave of oil suddenly coated 16

miles (26 km) of Louisiana coastline and marshes west of the Mississippi River in Plaquemines Parish.[58] In October, weathered oil reached Texas.[59] As of July 2011, about 491 miles (790 km) of coastline in Louisiana, Mississippi, Alabama and Florida were contaminated by oil and a total of 1,074 miles (1,728 km) had been oiled since the spill began.[60] As of December 2012, 339 miles (546 km) of coastline remain subject to evaluation and/or cleanup operations.[61]

Oil stained beaches in Pensacola, Florida; 1 July 2010

Concerns were raised about the appearance of underwater, horizontally extended plumes of dissolved oil. Researchers concluded that deep plumes of dissolved oil and gas would likely remain confined to the northern Gulf of Mexico and that the peak impact on dissolved oxygen would be delayed and long lasting.[62] Two weeks after the wellhead was capped on July 15, 2010, the surface oil appeared to have dissipated, while an unknown amount of subsurface oil remained.[63] Estimates of the residual ranged from a 2010 NOAA report that claimed about half of the oil remained below the surface to independent estimates of up to 75%.[64][65][66]

Burning and skimming operations in the Gulf of Mexico; 10 June 2010

That means that over 100 million US gallons (380 Ml) (2.4 million barrels) remained in the Gulf.[61] As of January 2011, tar balls, oil sheen trails, fouled wetlands marsh grass and coastal sands were still evident. Subsurface oil remained offshore and in fine silts.[67] In April 2012, oil was still found along as much as 200 miles (320 km) of Louisiana coastline and tar balls continued to wash up on the barrier islands.[68] In 2013, some scientists at the Gulf of Mexico Oil Spill and Ecosystem Science Conference said that as much as one-third of the oil may have mixed with deep ocean sediments, where it risks damage to ecosystems and commercial fisheries.[69]

Thick oil washes ashore in Louisiana; 10 June 2010

In 2013, more than 4,600,000 pounds (2,100 t) of "oiled material" was removed from the Louisiana coast.[16][70] Although only "minute" quantities of oil continued to wash up in 2013, patches of tar balls were still being reported almost every day from Alabama and Florida Panhandle beaches. Regular cleanup patrols were no longer considered justified but cleanup was being conducted on an as-needed basis, in response to public reports.[71]

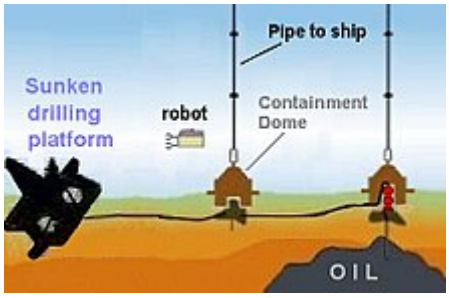
It was first thought that oil had not reached as far as Tampa Bay, Florida; however, a study done in 2013 found that one of the plumes of dispersant-treated oil had reached a shelf 80 miles (130 km) off the Tampa Bay region. According to researchers, there is "some evidence it may have caused lesions in fish caught in that area".[17][72]

Efforts to stem the flow of oil

Short-term efforts

First, BP unsuccessfully attempted to close the blowout preventer valves on the wellhead with remotely operated underwater vehicles.[73][74] Next, it placed a 125-tonne (280,000 lb) containment dome over the largest leak and piped the oil to a storage vessel. While this technique had worked in shallower water, it failed here when gas combined with cold water to form methane hydrate crystals that blocked the opening at the top of the dome.[75] Pumping heavy drilling fluids into the blowout preventer to restrict the flow of oil before sealing it permanently with cement ("top kill") also failed.[76][77]

BP then inserted a riser insertion tube into the pipe and a stopper-like washer around the tube plugged at the end of the riser and diverted the flow into the insertion tube.[78] The collected gas was flared and oil stored on board the drillship *Discoverer Enterprise*.[79] Before the tube was removed, it collected 924,000 US gallons (22,000 bbl; 3,500 m^3) of oil.[80] On June 3, 2010, BP removed the damaged drilling riser from the top of the blowout preventer and covered the pipe by the cap which connected it to another riser.[81] On June 16, a second containment system connected directly to the blowout preventer began carrying oil and gas to service vessels, where it was consumed in a clean-burning system.[82] The United States government's estimates suggested the cap and other equipment were capturing less than half of the leaking oil.[54] On July 10, the containment cap was removed to replace it with a better-fitting cap ("Top Hat Number 10").[83][84] Mud and cement were later pumped in through the top of the well to reduce the pressure inside it which didn't work either. A final device was created to attach a chamber of larger diameter than the flowing pipe with a flange that bolted to the top of the blowout preventer and a manual valve set to close off the flow once attached. On July 15, the device was secured and time was taken closing the valves to ensure the attachment under increasing pressure until the valves were closed completing the temporary measures.[85]



Concept diagram of underwater oil containment domes originally planned for the Deepwater Horizon oil spill. At this stage, there were 2 remaining oil leaks from the fallen pipeline.

Oil containment dome under construction in Port Fourchon, Louisiana, at Wild Well Control on 26 April

Well declared "effectively dead"

Transocean's *Development Driller III* started drilling a first relief well on May 2, 2010. *GSF Development Driller II* started drilling a second relief on May 16, 2010.[86][87][88] On August 3, 2010, first test oil and then drilling mud was pumped at a slow rate of approximately 2 barrels (320 L) per minute into the well-head. Pumping continued for eight hours, at the end of which time the well was declared to be "in a static condition."[89] On August 4, 2010, BP began pumping cement from the top, sealing that part of the flow channel permanently.[90]

On September 3, 2010, the 300-ton failed blowout preventer was removed from the well and a replacement blowout preventer was installed.[91][92] On September 16, 2010, the relief well reached its destination and pumping of cement to seal the well began.[93] On September 19, 2010, National Incident Commander Thad Allen declared the well "effectively dead" and said that it posed no further threat to the Gulf.[10]

Recurrent or continued leakage

In May 2010, BP admitted they had "discovered things that were broken in the sub-surface" during the "top kill" effort.[94]

Oil slicks were reported in March[95] and August 2011,[96][97] in March[11] and October 2012,[98][99][100] and in January 2013.[101] Repeated scientific analyses confirmed that the sheen was a chemical match for oil from Macondo well.[102][103]

The USCG initially said the oil was too dispersed to recover and posed no threat to the coastline,[104] but later warned BP and Transocean that they might be held financially responsible for cleaning up the new oil.[105] USGS director Marcia McNutt stated that the riser pipe could hold at most 1,000 barrels (160 m^3) because it is open on both ends, making it unlikely to hold the amount of oil being observed.[106]

In October 2012, BP reported that they had found and plugged leaking oil from the failed containment dome, now abandoned about 1,500 feet (460 m) from the main well.[107][108][109] In December 2012, the USCG conducted a subsea survey; no oil coming from the wells or the wreckage was found and its source remains unknown.[61][110] In addition, a white, milky substance was observed seeping from the wreckage. According to BP and the USCG, it is "not oil and it's not harmful."[111]

The Discoverer Enterprise and the Q4000 work around the clock burning undesirable gases from the still uncapped Deepwater Horizon well in the Gulf of Mexico. 26 June 2010

In January 2013, BP said that they were continuing to investigate possible sources of the oil sheen. Chemical data implied that the substance might be residual oil leaking from the wreckage. If that proves to be the case, the sheen can be expected to eventually disappear. Another possibility is that it is formation oil escaping from the subsurface, using the Macondo well casing as flow conduit, possibly intersecting a naturally occurring fault, and then following that to escape at the surface some distance from the wellhead. If it proves to be oil from the subsurface, then that could indicate the possibility of an indefinite release of oil. The oil slick was comparable in size to naturally occurring oil seeps and was not large enough to pose an immediate threat to wildlife.[11][112]

Containment, collection and use of dispersants

The fundamental strategies for addressing the spill were containment, dispersal and removal. In summer 2010, approximately 47,000 people and 7,000 vessels were involved in the project. By 3 October 2012, federal response costs amounted to $850 million, mostly reimbursed by BP. As of January 2013, 935 personnel were still involved. By that time cleanup had cost BP over $14 billion.[61]

It was estimated with plus-or-minus 10% uncertainty that 4.9 million barrels (780,000 m^3) of oil was released from the well; 4.1 million barrels (650,000 m^3) of oil went into the Gulf.[113] The report led by the Department of the Interior and the NOAA said that "75% [of oil] has been cleaned up by Man or Mother Nature"; however, only about 25% of released oil was collected or removed while about 75% of oil remained in the environment in one form or another.[114] In 2012, Markus Huettel, a benthic ecologist at Florida State University, maintained that while much of BP's oil was degraded or evaporated, at least 60% remains unaccounted for.[115]

In May 2010, a local native set up a network for people to volunteer their assistance in cleaning up beaches. Boat captains were given the opportunity to offer the use of their boat to help clean and prevent the oil from further spreading. To assist with the efforts the captains had to register their ships with the Vessels of Opportunity, however an issue arose when more boats registered than actually participated in the clean up efforts - only a third of the registered boats. Many local supporters were disappointed with BP's slow response, prompting the formation of The Florida Key Environmental Coalition. This coalition gained significant influence in the clean up of the oil spill to try and gain some control over the situation.[116]

Containment

Containment booms stretching over 4,200,000 feet (1,300 km) were deployed, either to corral the oil or as barriers to protect marshes, mangroves, shrimp/crab/oyster ranches or other ecologically sensitive areas. Booms extend 18–48 inches (0.46–1.22 m) above and below the water surface and were effective only in relatively calm and slow-moving waters. Including one-time use sorbent booms, a total of 13,300,000 feet (4,100 km) of booms were deployed.[117] Booms were criticized for washing up on the shore with the oil, allowing oil to escape above or below the boom, and for ineffectiveness in more than three to four-foot (90–120 cm) waves.[118][119][120]

The Louisiana barrier island plan was developed to construct barrier islands to protect the coast of Louisiana. The plan was criticised for its expense and poor results.[121][122] Critics allege that the decision to pursue the project was political with little scientific input.[123] The EPA expressed concern that the booms would threaten wildlife.[124]

For a time, a group called Matter of Trust, citing insufficient availability of manufactured oil absorption booms, campaigned to encourage hair salons, dog groomers and sheep farmers to donate hair, fur and wool clippings, stuffed in pantyhose or tights, to help contain oil near impacted shores, a technique dating back to the Exxon Valdez disaster.[125][126]

Oil containment boom used in an attempt to protect barrier islands

Use of Corexit dispersant

The spill was also notable for the volume of Corexit oil dispersant used and for application methods that were "purely experimental."[117] Altogether, 1.84 million US gallons (7,000 m^3) of dispersants were used; of this 771,000 US gallons (2,920 m^3) were released at the wellhead.[13] Subsea injection had never previously been tried but due to the spill's unprecedented nature BP together with USCG and EPA decided to use it.[127] Over 400 sorties were flown to release the product.[117] Although usage of dispersants was described as "the most effective and fast moving tool for minimizing shoreline impact",[117] the approach continues to be investigated.[128][129][130]

A C-130 Hercules sprays Corexit dispersant onto the Gulf of Mexico

A 2011 analysis conducted by Earthjustice and Toxipedia showed that the dispersant could contain cancer-causing agents, hazardous toxins and endocrine-disrupting chemicals.[131] Environmental scientists expressed concerns that the dispersants add to the toxicity of a spill, increasing the threat to sea turtles and bluefin tuna. The dangers are even greater when poured into the source of a spill, because they are picked up by the current and wash through the Gulf.[132] According to BP and federal officials, dispersant use stopped after the cap was in place;[133][134] however, marine toxicologist Riki Ott wrote in an open letter to the EPA that Corexit use continued after that date[135] and a GAP investigation stated that "[a] majority of GAP witnesses cited indications that Corexit was used after [July 2010]."[136]

According to a NALCO manual obtained by GAP, Corexit 9527 is an “eye and skin irritant. Repeated or excessive exposure ... may cause injury to red blood cells (hemolysis), kidney or the liver.” The manual adds: “Excessive exposure may cause central nervous system effects, nausea, vomiting, anesthetic or narcotic effects.” It advises, “Do not get in eyes, on skin, on clothing,” and “Wear suitable protective clothing.” For Corexit 9500 the manual advised, “Do not get in eyes, on skin, on clothing,” “Avoid breathing vapor,” and “Wear suitable protective clothing.” According to FOIA requests obtained by GAP, neither the protective gear nor the manual were distributed to Gulf oil spill cleanup workers.

Corexit EC9500A and Corexit EC9527A were the principal variants.[137] The two formulations are neither the least toxic, nor the most effective, among EPA's approved dispersants, but BP said it chose to use Corexit because it was available the week of the rig explosion.[138][139] On 19 May, the EPA gave BP 24 hours to choose less toxic alternatives to Corexit from the National Contingency Plan Product Schedule, and begin applying them within 72 hours of EPA approval or provide a detailed reasoning why no approved products met the standards.[140][141] On 20 May, BP determined that none of the alternative products met all three criteria of availability, non-toxicity and effectiveness.[142] On 24 May, EPA Administrator Lisa P. Jackson ordered EPA to conduct its own evaluation of alternatives and ordered BP to reduce dispersant use by 75%.[143][144][145] BP reduced Corexit use by 25,689 to 23,250 US gallons (97,240 to 88,010 L) per day, a 9% decline.[146] On 2 August 2010, the EPA said dispersants did

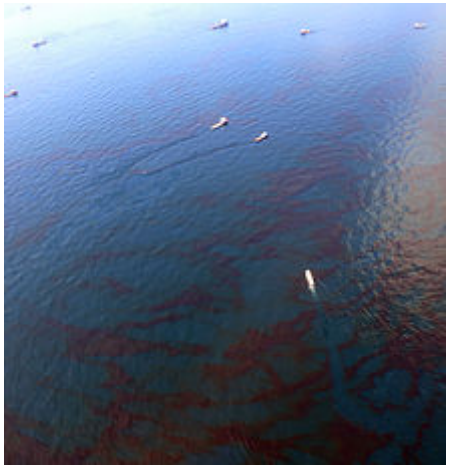
no more harm to the environment than the oil and that they stopped a large amount of oil from reaching the coast by breaking it down faster.[133] However, some independent scientists and EPA's own experts continue to voice concerns about the approach.[147]

Underwater injection of Corexit into the leak may have created the oil plumes which were discovered below the surface.[139] Because the dispersants were applied at depth, much of the oil never rose to the surface.[148] One plume was 22 miles (35 km) long, more than 1 mile (1,600 m) wide and 650 feet (200 m) deep.[149] In a major study on the plume, experts were most concerned about the slow pace at which the oil was breaking down in the cold, 40 °F (4 °C) water at depths of 3,000 feet (900 m).[150]

In late 2012, a study from Georgia Tech and Universidad Autonoma de Aguascalientes in Environmental Pollution journal reported that Corexit used during the BP oil spill had increased the toxicity of the oil by 52 times.[151] The scientists concluded that "Mixing oil with dispersant increased toxicity to ecosystems" and made the gulf oil spill worse."[152][153]

Removal

The three basic approaches for removing the oil from the water were: combustion, offshore filtration, and collection for later processing. USCG said 33 million US gallons (120,000 m^3) of tainted water was recovered, including 5 million US gallons (19,000 m^3) of oil. BP said 826,800 barrels (131,450 m^3) had been recovered or flared.[154] It is calculated that about 5% of leaked oil was burned at the surface and 3% was skimmed.[114] On the most demanding day 47,849 people were assigned on the response works.[3]



Oil skimming vessels (distance) in the Gulf of Mexico

From April to mid-July 2010, 411 controlled *in-situ* fires remediated approximately 265,000 barrels (11.1 million US gal; 42,100 m^3).[117] The fires released small amounts of toxins, including cancer-causing dioxins. According to EPA's report, the released amount is not enough to pose an added cancer risk to workers and coastal residents, while a second research team concluded that there was only a small added risk.[155]

Workers cleaning a beach affected by the spill.

Oil was collected from water by using skimmers. In total 2,063 various skimmers were used.[3] For offshore, more than 60 open-water skimmers were deployed, including 12 purpose-built vehicles.[117] EPA regulations prohibited skimmers that left more than 15 parts per million (ppm) of oil in the water. Many large-scale skimmers exceeded the limit.[156] Due to use of Corexit the oil was too dispersed to collect, according to a spokesperson for shipowner TMT.[157] In mid-June 2010, BP ordered 32 machines that separate oil and water, with each machine capable of extracting up to 2,000 barrels per day (320 m^3/d).[158][159] After one week of testing, BP began to proceed[160] and by 28 June, had removed 890,000 barrels (141,000 m^3).[161]

Dark clouds of smoke and fire emerge as oil burns during a controlled fire in the Gulf of Mexico, 6 May 2010

After the well was captured, the cleanup of shore became the main task of the response works. Two main types of affected coast were sandy beaches and marshes. On beaches the main techniques were sifting sand, removing tar balls, and digging out tar mats manually or by using mechanical devices.[3] For marshes, techniques such as vacuum and pumping, low-pressure flush, vegetation cutting, and bioremediation were used.[117]

Oil-eating microbes

Dispersants are said to facilitate the digestion of the oil by microbes. Mixing dispersants with oil at the wellhead would keep some oil below the surface and in theory, allowing microbes to digest the oil before it reached the surface. Various risks were identified and evaluated, in particular that an increase in microbial activity might reduce subsea oxygen levels, threatening fish and other animals.[162]

Several studies suggest that microbes successfully consumed part of the oil.[61][163] By mid-September, other research claimed that microbes mainly digested natural gas rather than oil.[164][165] David L. Valentine, a professor of microbial geochemistry at UC Santa Barbara, said that the capability of microbes to break down the leaked oil had been greatly exaggerated.[166] However, biogeochemist Chris Reddy, said natural microorganisms are a big reason why the oil spill in the Gulf of Mexico was not far worse.[167][168]

Genetically modified *Alcanivorax borkumensis* was added to the waters to speed digestion.[166][169] The delivery method of microbes to oil patches was proposed by the Russian Research and Development Institute of Ecology and the Sustainable Use of Natural Resources.[170]

Access restrictions

On May 18, 2010, BP was designated the lead "Responsible Party" under the Oil Pollution Act of 1990, which meant that BP had operational authority in coordinating the response.[171][172]

The first video images were released on 12 May, and further video images were released by members of Congress who had been given access to them by BP.[173]

During the spill response operations, at the request of the Coast Guard, the Federal Aviation Administration (FAA) implemented a 900-square-mile (2,300 km^2) temporary flight restriction zone over the operations area.[174][175][176] Restrictions were to prevent civilian air traffic from interfering with aircraft assisting the response effort.[173] All flights in the operations' area were prohibited except flight authorized by air traffic control; routine flights supporting offshore oil operations; federal, state, local and military flight operations supporting spill response; and air ambulance and law enforcement operations. Exceptions for these restrictions were granted on a case-by-case basis dependent on safety issues, operational requirements, weather conditions, and traffic volume. No flights, except aircraft conducting aerial chemical dispersing operations, or for landing and takeoff, were allowed below 1,000 metres (3,300 ft).[174] Notwithstanding restrictions, there were 800 to 1,000 flights per day during the operations.[177]

Local and federal authorities citing BP's authority denied access to members of the press attempting to document the spill from the air, from boats, and on the ground, blocking access to areas that were open to the public.[173][178][179][180][181][182][183] In some cases photographers were granted access only with BP officials escorting them on BP-contracted boats and aircraft. In one example, the U.S. Coast Guard stopped Jean-Michel Cousteau's boat and allowed it to proceed only after the Coast Guard was assured that no journalists were on board.[180] In another example, a CBS News crew was denied access to the oil-covered beaches of the spill area. The CBS crew was told by the authorities: "this is BP's rules, not ours," when trying to film the area.[180][184][185] Some members of Congress criticized the restrictions placed on access by journalists.[173]

The FAA denied that BP employees or contractors made decisions on flights and access, saying those decisions were made by the FAA and Coast Guard.[173][176] The FAA acknowledged that media access was limited to hired planes or helicopters, but was arranged through the Coast Guard.[177] The Coast Guard and BP denied having a policy of restricting journalists; they noted that members of the media had been embedded with the authorities and allowed to cover response efforts since the beginning of the effort, with more than 400 embeds aboard boats and aircraft to date.[182] They also said that they wanted to provide access to the information while maintaining safety.[182]

Cleanup

On 15 April 2014, BP claimed that cleanup along the coast was substantially complete, but the United States Coast Guard responded by stating that a lot of work remained. Using physical barriers such as floating booms, cleanup workers' objective was to keep the oil from spreading any further. They used skimmer boats to remove a majority of the oil and they used sorbents to absorb any remnant of oil like a sponge. Although that method did not remove the oil completely, chemicals called dispersants are used to hasten the oil's degradation to prevent the oil from doing further damage to the marine habitats below the surface water. For the Deep Horizon oil spill, cleanup workers used 1,400,000 US gallons (5,300,000 l; 1,200,000 imp gal) of various chemical dispersants to further breakdown the oil.[186]

The State of Louisiana was funded by BP to do regular testing of fish, shellfish, water, and sand. Initial testing regularly showed detectable levels of dioctyl sodium sulfosuccinate, a chemical used in the clean up. Testing over the past year reported by GulfSource.org, for the pollutants tested have not produced results.[187]

Consequences

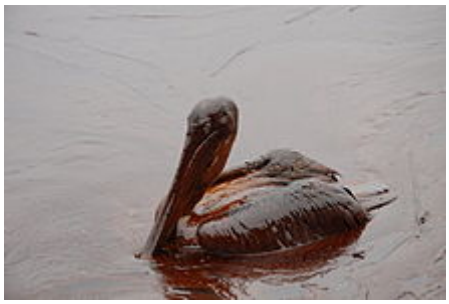
Environmental impact

Capturing heavily oiled young turtles 20 to 40 miles offshore for rehabilitation; 14 June 2010

The spill area hosts 8,332 species, including more than 1,270 fish, 604 polychaetes, 218 birds, 1,456 mollusks, 1,503 crustaceans, 4 sea turtles and 29 marine mammals.[188][189] Between May and June 2010, the spill waters contained 40 times more polycyclic aromatic hydrocarbons (PAHs) than before the spill.[190][191] PAHs are often linked to oil spills and include carcinogens and chemicals that pose various health risks to humans and marine life. The PAHs were most concentrated near the Louisiana Coast, but levels also jumped 2–3 fold in areas off Alabama, Mississippi and Florida.[191] PAHs can harm marine species directly and microbes used to consume the oil can reduce marine oxygen levels.[192] The oil contained approximately 40% methane by weight, compared to about 5% found in typical oil deposits.[193] Methane can potentially suffocate marine life and create "dead zones" where oxygen is depleted.[193]

A 2014 study of the effects of the oil spill on bluefin tuna funded by National Oceanic and Atmospheric Administration (NOAA), Stanford University, and the Monterey Bay Aquarium and published in the journal *Science*, found that the toxins from oil spills can cause irregular heartbeats leading to cardiac arrest. Calling the vicinity of the spill "one of the most productive ocean ecosystems in the world", the study found that even at very low concentrations "PAH cardiotoxicity was potentially a common form of injury among a broad range of species in the vicinity of the oil."[19] Another peer-reviewed study, released in March 2014 and conducted by 17 scientists from the United States and Australia and published in the Proceedings of the National Academy of Sciences, found that tuna and amberjack that were exposed to oil from the spill developed deformities of the heart and other organs that would be expected to be fatal or at least life-shortening. The scientists said that their findings would most likely apply

to other large predator fish and "even to humans, whose developing hearts are in many ways similar." BP responded that the concentrations of oil in the study were a level rarely seen in the Gulf, but *The New York Times* reported that the BP statement was contradicted by the study.[20]


An oiled brown pelican near Grand Isle, Louisiana

The oil dispersant Corexit, previously only used as a surface application, was released underwater in unprecedented amounts, with the intent of making it more easily biodegraded by naturally occurring microbes. Thus, oil that would normally rise to the surface of the water was emulsified into tiny droplets and remained suspended in the water and on the sea floor.[194] The oil and dispersant mixture permeated the food chain through zooplankton.[191][195][196] Signs of an oil-and-dispersant mix were found under the shells of tiny blue crab larvae.[197] A study of insect populations in the coastal marshes affected by the spill also found a significant impact.[198] Chemicals from the spill were found in migratory birds as far away as Minnesota. Pelican eggs contained "petroleum compounds and Corexit".[130] Dispersant and PAHs from oil are believed to have caused "disturbing numbers" of mutated fish that scientists and commercial fishers saw in 2012, including 50% of shrimp found lacking eyes and eye sockets.[199][200] Fish with oozing sores and lesions were first noted by fishermen in November 2010.[201] Prior to the spill, approximately 0.1% of Gulf fish had lesions or sores. A report from the University of Florida said that many locations showed 20% of fish with lesions, while later estimates reached 50%.[201] In October 2013, Al Jazeera reported that the gulf ecosystem was "in crisis", citing a decline in seafood catches, as well as deformities and lesions found in fish.[202] According to J. Christopher Haney, Harold Geiger, and Jeffrey Short, three researchers with extensive experience in environmental monitoring and post-spill mortality assessments, over one million coastal birds died as a direct result of the Deepwater Horizon spill. These numbers, coupled with the National Audubon Society (https://www.audubon.org/news/more-one-million-birds-died-during-deepwater-horizon-disaster) scientists' observations of bird colonies and bird mortality well after the acute phase, have led scientists to conclude that more than one million birds ultimately succumbed to the lethal effects of the Gulf oil spill.

In July 2010, it was reported that the spill was "already having a 'devastating' effect on marine life in the Gulf".[203] Damage to the ocean floor especially endangered the Louisiana pancake batfish whose range is entirely contained within the spill-affected area.[204] In March 2012, a definitive link was found between the death of a Gulf coral community and the spill.[205][206][207][208] According to NOAA, a cetacean Unusual Mortality Event (UME) has been recognized since before the spill began, NOAA is investigating possible contributing factors to the ongoing UME from the Deepwater Horizon spill, with the possibility of eventual criminal charges being filed if the spill is shown to be connected.[209] Some estimates are that only 2% of the carcasses of killed mammals have been recovered.[210]

Striped dolphins (*Stenella coeruleoalba*) observed in emulsified oil on 29 April 2010

In the first birthing season for dolphins after the spill, dead baby dolphins washed up along Mississippi and Alabama shorelines at about 10 times the normal number.[211] A peer-reviewed NOAA/BP study disclosed that nearly half the bottlenose dolphins tested in mid-2011 in Barataria Bay, a heavily oiled area, were in “guarded or worse” condition, "including 17 percent that were not expected to survive". BP officials deny that the disease conditions are related to the spill, saying that dolphin deaths actually began being reported before the BP oil spill.[198][212][213] By 2013, over 650 dolphins had been found stranded in the oil spill area, a four-fold increase over the historical average.[214] The National Wildlife Federation (NWF) reports that sea turtles, mostly endangered Kemp’s ridley sea turtles, have been stranding at a high rate. Before the spill there were an average of 100 strandings per year; since the spill the number has jumped to roughly 500.[215] NWF senior scientist Doug Inkley notes that the marine death rates are unprecedented and occurring

high in the food chain, strongly suggesting there is "something amiss with the Gulf ecosystem".[216] In December 2013, the journal *Environmental Science & Technology* published a study finding that of 32 dolphins briefly captured from 24-km stretch near southeastern Louisiana, half were seriously ill or dying. BP said the report was “inconclusive as to any causation associated with the spill”.[217][218]

In 2012, tar balls continued to wash up along the Gulf coast[219][220][221][222] and in 2013, tar balls could still be found in on the Mississippi and Louisiana coasts, along with oil sheens in marshes and signs of severe erosion of coastal islands, brought about by the death of trees and marsh grass from exposure to the oil.[223] In 2013, former NASA physicist Bonny Schumaker noted a "dearth of marine life" in a radius 30 to 50 miles (48 to 80 km) around the well, after flying over the area numerous times since May 2010.[224][225]

Heavy oiling of Bay Jimmy, Plaquemines Parish; 15 September 2010

In 2013, researchers found that oil on the bottom of the seafloor did not seem to be degrading,[226] and observed a phenomenon called a "dirty blizzard": oil in the water column began clumping around suspended sediments, and falling to the ocean floor in an "underwater rain of oily particles." The result could have long-term effects because oil could remain in the food chain for generations.[227]

A 2014 bluefin tuna study in *Science* found that oil already broken down by wave action and chemical dispersants was more toxic than fresh oil.[228] A 2015 study of the relative toxicity of oil and dispersants to coral also found that the dispersants were more toxic than the oil.[229]

A 2015 study by the National Oceanic and Atmospheric Administration, published in *PLOS ONE*, links the sharp increase in dolphin deaths to the *Deepwater Horizon* oil spill.[230][231]

On 12 April 2016, a research team reported that 88 percent of about 360 baby or stillborn dolphins within the spill area "had abnormal or under-developed lungs", compared to 15 percent in other areas. The study was published in the April 2016 *Diseases of Aquatic Organisms*.[232]

Health consequences

By June 2010, 143 spill-exposure cases had been reported to the Louisiana Department of Health and Hospitals; 108 of those involved workers in the clean-up efforts, while 35 were reported by residents.[233] Chemicals from the oil and dispersant are believed to be the cause; it is believed that the addition of dispersants made the oil more toxic.[234]

The United States Department of Health and Human Services set up the GuLF Study in June 2010 in response to these reports. The study is run by the National Institute of Environmental Health Sciences, and will last at least five years.[235][236]

Mike Robicheux, a Louisiana physician, described the situation as "the biggest public health crisis from a chemical poisoning in the history of this country."[237] In July, after testing the blood of BP cleanup workers and residents in Louisiana, Mississippi, Alabama, and Florida for volatile organic compounds, environmental scientist Wilma Subra said she was "finding amounts 5 to 10 times in excess of the 95th percentile"; she said that "the presence of these chemicals in the blood indicates exposure."[236][238][239] Riki Ott, a marine toxicologist with experience of the Exxon Valdez oil spill, advised families to evacuate the Gulf.[240] She said that workers from the Valdez spill had suffered long-term health consequences.[241]

Following the 26 May 2010 hospitalization of seven fishermen that were working in the cleanup crew, BP requested that the National Institute for Occupational Safety and Health perform a Health Hazard Evaluation. This was to cover all offshore cleanup activities, BP later requested a second NIOSH investigation of onshore cleanup operations. Tests for chemical exposure in the seven fishermen were negative; NIOSH concluded that the hospitalizations were most likely a result of heat, fatigue, and terpenes

that were being used to clean the decks. Review of 10 later hospitalizations found that heat exposure and dehydration were consistent findings but could not establish chemical exposure. NIOSH personnel performed air monitoring around cleanup workers at sea, on land, and during the application of Corexit. Air concentrations of volatile organic compounds and PAHs never exceeded permissible exposure levels. A limitation of their methodology was that some VOCs may have already evaporated from the oil before they began their investigation. In their report, they suggest the possibility that respiratory symptoms might have been caused by high levels of ozone or reactive aldehydes in the air, possibly produced from photochemical reactions in the oil. NIOSH did note that many of the personnel involved were not donning personal protective equipment (gloves and impermeable coveralls) as they had been instructed to and emphasized that this was important protection against transdermal absorption of chemicals from the oil. Heat stress was found to be the most pressing safety concern.[242]

A worker cleans up oily waste on Elmer's Island just west of Grand Isle, La., 21 May 2010

Workers reported that they were not allowed to use respirators, and that their jobs were threatened if they did.[243][244][245] OSHA said "cleanup workers are receiving "minimal" exposure to airborne toxins...OSHA will require that BP provide certain protective clothing, but not respirators."[246] *ProPublica* reported that workers were being photographed while working with no protective clothing.[247] An independent investigation for Newsweek showed that BP did not hand out the legally required safety manual for use with Corexit, and were not provided with safety training or protective gear.[248]

Workers contracted by BP clean up oil on a beach in Port Fourchon, Louisiana, 23 May 2010

A 2012 survey of the health effects of the spill on cleanup workers reported "eye, nose and throat irritation; respiratory problems; blood in urine, vomit and rectal bleeding; seizures; nausea and violent vomiting episodes that last for hours; skin irritation, burning and lesions; short-term memory loss and confusion; liver and kidney damage; central nervous system effects and nervous system damage; hypertension; and miscarriages". Dr. James Diaz, writing for the *American Journal of Disaster Medicine*, said these ailments appearing in the Gulf reflected those reported after previous oil spills, like the Exxon Valdez. Diaz warned that "chronic adverse health effects, including cancers, liver and kidney disease, mental health disorders, birth defects and developmental disorders should be anticipated among sensitive populations and those most heavily exposed". Diaz also believes neurological disorders should be expected.[249]

Two years after the spill, a study initiated by the National Institute for Occupational Safety and Health found biomarkers matching the oil from the spill in the bodies of cleanup workers. Other studies have reported a variety of mental health issues, skin problems, breathing issues, coughing, and headaches.[250] In 2013, during the three-day "Gulf of Mexico Oil Spill & Ecosystem Science Conference",[251] findings discussed included a '"significant percentage" of Gulf residents reporting mental health problems like anxiety, depression and PTSD. These studies also showed that the bodies of former spill cleanup workers carry biomarkers of "many chemicals contained in the oil".[252][253]

A study that investigated the health effects among children in Louisiana and Florida living less than 10 miles from the coast found that more than a third of the parents reported physical or mental health symptoms among their children. The parents reported "unexplained symptoms among their children, including bleeding ears, nose bleeds, and the early start of menstruation among girls," according to David Abramson, director of Columbia University's National Center for Disaster Preparedness.[252]

A cohort study of almost 2,200 Louisiana women found "high physical/environmental exposure was significantly associated with all 13 of the physical health symptoms surveyed, with the strongest associations for burning in nose, throat or lungs; sore throat; dizziness and wheezing. Women who suffered a high degree of economic disruption as a result of spill were significantly more likely to report wheezing; headaches; watery, burning, itchy eyes and stuffy, itchy, runny nose.[254]

Economy

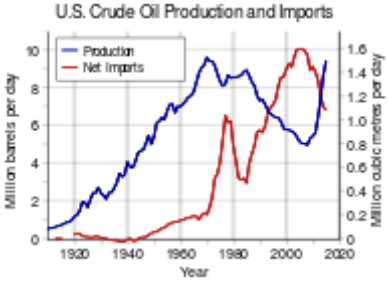
The spill had a strong economic impact to BP [255] and also the Gulf Coast's economy sectors such as offshore drilling, fishing and tourism. Estimates of lost tourism dollars were projected to cost the Gulf coastal economy up to 22.7 billion through 2013. In addition, Louisiana reported that lost visitor spending through the end of 2010 totaled $32 million, and losses through 2013 were expected to total $153 million in this state alone.[256][257] The Gulf of Mexico commercial fishing industry was estimated to have lost $247 million as a result of postspill fisheries closures. One study projects that the overall impact of lost or degraded commercial, recreational, and mariculture fisheries in the Gulf could be $8.7 billion by 2020, with a potential loss of 22,000 jobs over the same time frame.[257][258] BP's expenditures on the spill included the cost of the spill response, containment, relief well drilling, grants to the Gulf states, claims paid, and federal costs, including fines and penalties.[259] Due to the loss of the market value, BP had dropped from the second to the fourth largest of the four major oil companies by 2013.[260] During the crisis, BP gas stations in the United States reported a sales drop of between 10 and 40% due to backlash against the company.[261]

Sign in Orange Beach, Alabama advising against swimming due to the oil spill

Local officials in Louisiana expressed concern that the offshore drilling moratorium imposed in response to the spill would further harm the economies of coastal communities as the oil industry directly or indirectly employs about 318,000 Louisiana residents (17% of all jobs in the state).[262] NOAA had closed 86,985 square miles (225,290 km^2), or approximately 36% of Federal waters in the Gulf of Mexico, for commercial fishing causing $2.5 billion cost for the fishing industry.[263][264][265] The U.S. Travel Association estimated that the economic impact of the oil spill on tourism across the Gulf Coast over a three-year period could exceed approximately $23 billion, in a region that supports over 400,000 travel industry jobs generating $34 billion in revenue annually.[266][267]

Offshore drilling policies

On 30 April 2010, President Barack Obama ordered the federal government to hold the issuing of new offshore drilling leases and authorized the investigation of 29 oil rigs in the Gulf in an effort to determine the cause of the disaster.[268][269] Later a six-month offshore drilling (below 500 feet (150 m) of water) moratorium was enforced by the United States Department of the Interior.[270] The moratorium suspended work on 33 rigs,[270] and a group of affected companies formed the Back to Work Coalition.[271] On 22 June, a United States federal judge on the United States District Court for the Eastern District of Louisiana Martin Leach-Cross Feldman when ruling in the case *Hornbeck Offshore Services LLC v. Salazar*, lifted the moratorium finding it too broad, arbitrary and not adequately justified.[270] The ban was lifted in October 2010.



US oil production and imports, 1910–2012.

On 28 April 2010, the National Energy Board of Canada, which regulates offshore drilling in the Canadian Arctic and along the British Columbia Coast, issued a letter to oil companies asking them to explain their argument against safety rules which require same-season relief wells.[272] On 3 May California Governor Arnold Schwarzenegger withdrew his support for a proposed plan

to allow expanded offshore drilling projects in California.[273][274] On 8 July, Florida Governor Charlie Crist called for a special session of the state legislature to draft an amendment to the state constitution banning offshore drilling in state waters, which the legislature rejected on 20 July.[275][276]

In October 2011, the United States Department of the Interior's Minerals Management Service was dissolved after it was determined it had exercised poor oversight over the drilling industry. Three new agencies replaced it, separating the regulation, leasing, and revenue collection responsibilities respectively, among the Bureau of Safety and Environmental Enforcement, the Bureau of Ocean Energy Management, and Office of Natural Resources Revenue.

In March 2014, BP was again allowed to bid for oil and gas leases.[277]

Reactions

U.S. reactions

Protesters advocating boycott of BP

On 30 April, President Obama dispatched the Secretaries of the Department of Interior and Homeland Security, as well as the EPA Administrator and NOAA to the Gulf Coast to assess the disaster.[278] In his 15 June speech, Obama said, "This oil spill is the worst environmental disaster America has ever faced... Make no mistake: we will fight this spill with everything we've got for as long as it takes. We will make BP pay for the damage their company has caused. And we will do whatever's necessary to help the Gulf Coast and its people recover from this tragedy."[279] Interior Secretary Ken Salazar stated, "Our job basically is to keep the boot on the neck of British Petroleum."[280] Some observers suggested that the Obama administration was being overly aggressive in its criticisms, which some BP investors saw as an attempt to deflect criticism of his own handling of the crisis.[281] Rand Paul accused President Obama of being anti-business and "un-American".[280]

Public opinion polls in the U.S. were generally critical of the way President Obama and the federal government handled the disaster and they were extremely critical of BPs response. Across the US, thousands participated in dozens of protests at BP gas stations and other locations,[282][283][284] reducing sales at some stations by 10% to 40%.[285]

Industry claimed that disasters are infrequent and that this spill was an isolated incident and rejected claims of a loss of industry credibility.[286] The American Petroleum Institute (API) stated that the offshore drilling industry is important to job creation and economic growth.[286][287] CEOs from the top five oil companies all agreed to work harder at improving safety. API announced the creation of an offshore safety institute, separate from API's lobbying operation.[288]

The Organization for International Investment, a Washington D.C.-based advocate for overseas investment in the United States, warned that the heated rhetoric was potentially damaging the reputation of British companies with operations in the United States and could spark a wave of U.S. protectionism that would restrict British firms from government contracts, political donations and lobbying.[289][290]

In July 2010, President Obama issued an executive order, specifically citing the Deepwater Horizon oil spill, that adopted recommendations from the Interagency Ocean Policy Task Force and established the National Ocean Council.[291] The council called together a number of federal committees and departments engaged in ocean issues to work with a newly established committee for conservation and resource management.[292] In June 2018, the executive order establishing the National Ocean Council was revoked by President Trump in an effort to roll back bureaucracy and "benefit ocean industries employ millions of Americans."[292][293]

United Kingdom reactions

American protester stands on a Union Jack, presumably associating BP with the United Kingdom

In the UK, there was anger at the American press and news outlets for the misuse of the term "British Petroleum" for the company – a name which has not been used since British Petroleum merged with the American company Amoco in 1998 to form BP. It was said that the U.S. was 'dumping' the blame onto the British people and there were calls for British Prime Minister David Cameron to protect British interests in the United States. British pension fund managers (who have large holdings of BP shares and rely upon its dividends) accepted that while BP had to pay compensation for the spill and the environmental damage, they argued that the cost to the company's market value from President Obama's criticism was far outweighing the direct clean-up costs.[281]

Initially, BP downplayed the incident; its CEO Tony Hayward called the amount of oil and dispersant "relatively tiny" in comparison with the "very big ocean."[294] Later, he drew an outpouring of criticism when he said that the spill was a disruption to Gulf Coast residents and himself adding, "You know, I'd like my life back."[295] BP's chief operating officer Doug Suttles contradicted the underwater plume discussion noting, "It may be down to how you define what a plume is here… The oil that has been found is in very minute quantities."[296] In June, BP launched a PR campaign and successfully bid for several search terms related to the spill on Google and other search engines so that the first sponsored search result linked directly to the company's website.[297][298] On 26 July 2010, it was announced that CEO Tony Hayward was to resign and would be replaced by Bob Dudley, who is an American citizen and previously worked for Amoco.[299][300]

Hayward's involvement in Deepwater Horizon has left him a highly controversial public figure. In May 2013, he was honored as a "distinguished leader" by the University of Birmingham, but his award ceremony was stopped on multiple occasions by jeers and walk-outs and the focus of a protest from People & Planet members.[301]

In July 2013, Hayward was awarded an honorary degree from Robert Gordon University. This was described as "a very serious error of judgement" by Friends of the Earth Scotland, and "a sick joke" by the university's Student President.[302]

International reactions

The U.S. government rejected offers of cleanup help from Canada, Croatia, France, Germany, Ireland, Mexico, the Netherlands, Norway, Romania, South Korea, Spain, Sweden, the United Kingdom, and the United Nations. The U.S. State Department listed 70 assistance offers from 23 countries, all being initially declined, but later, 8 had been accepted.[303][304] The USCG actively requested skimming boats and equipment from several countries.[305]

Legal aspects and settlements

Investigations

In the United States the *Deepwater Horizon* investigation included several investigations and commissions, including reports by the USCG National Incident Commander, Admiral Thad Allen, the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE), National Academy of Engineering, National Research Council, Government Accountability Office, National Oil Spill Commission, and Chemical Safety and Hazard Investigation Board.[61] The Republic of the Marshall Islands Maritime Administrator conducted a separate investigation on the marine casualty.[2] BP conducted its internal investigation.

An investigation of the possible causes of the explosion was launched on 22 April 2010 by the USCG and the Minerals Management Service.[37] On 11 May the United States administration requested the National Academy of Engineering conduct an independent technical investigation.[306] The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling was established on 22 May to "consider the root causes of the disaster and offer options on safety and environmental precautions."[307] The investigation by United States Attorney General Eric Holder was announced on 1 June 2010.[308] Also the United States House Committee on Energy and Commerce conducted a number of hearings, including hearings of Tony Hayward and heads of Anadarko and Mitsui's exploration unit.[82][309] According to the US Congressional investigation, the rig's blowout preventer, built by Cameron International Corporation, had a hydraulic leak and a failed battery, and therefore failed.[310]

On 8 September 2010, BP released a 193-page report on its web site. The report places some of the blame for the accident on BP but also on Halliburton and Transocean.[311] The report found that on 20 April 2010, managers misread pressure data and gave their approval for rig workers to replace drilling fluid in the well with seawater, which was not heavy enough to prevent gas that had been leaking into the well from firing up the pipe to the rig, causing the explosion. The conclusion was that BP was partly to blame, as was Transocean, which owned the rig.[312] Responding to the report, Transocean and Halliburton placed all blame on BP.[313]

On 9 November 2010, a report by the Oil Spill Commission said that there had been "a rush to completion" on the well and criticised poor management decisions. "There was not a culture of safety on that rig," the co-chair said.[314]

The National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling released a final report on 5 January 2011.[315][316] The panel found that BP, Halliburton, and Transocean had attempted to work more cheaply and thus helped to trigger the explosion and ensuing leakage.[317] The report stated that "whether purposeful or not, many of the decisions that BP, Halliburton, and Transocean made that increased the risk of the Macondo blowout clearly saved those companies significant time (and money)."[317] BP released a statement in response to this, saying, that "even prior to the conclusion of the commission's investigation, BP instituted significant changes designed to further strengthen safety and risk management."[318] Transocean, however, blamed BP for making the decisions before the actual explosion occurred and government officials for permitting those decisions.[319] Halliburton stated that it was acting only upon the orders of BP when it injected the cement into the wall of the well.[318][320] It criticized BP for its failure to run a cement bond log test.[319] In the report, BP was accused of nine faults.[318][320] One was that it had not used a diagnostic tool to test the strength of the cement.[317] Another was ignoring a pressure test that had failed.[318] Still another was for not plugging the pipe with cement.[317] The study did not, however, place the blame on any one of these events. Rather, it concluded that "notwithstanding these inherent risks, the accident of April 20 was avoidable" and that "it resulted from clear mistakes made in the first instance by BP, Halliburton and Transocean, and by government officials who, relying too much on industry's assertions of the safety of their operations, failed to create and apply a program of regulatory oversight that would have properly minimized the risk of deepwater drilling."[318][320] The panel also noted that the government regulators did not have sufficient knowledge or authority to notice these cost-cutting decisions.[317]

On 23 March 2011, BOEMRE (former MMS) and the USCG published a forensic examination report on the blowout preventer, prepared by Det Norske Veritas.[321] The report concluded that the primary cause of failure was that the blind shear rams failed to fully close and seal due to a portion of drill pipe buckling between the shearing blocks.

The US government report issued in September 2011 stated that BP is ultimately responsible for the spill, and that Halliburton and Transocean share some of the blame.[21][322] The report states that the main cause was the defective cement job, and Halliburton, BP and Transocean were, in different ways, responsible for the accident.[21] The report stated that, although the events leading to the sinking of Deepwater Horizon were set into motion by the failure to prevent a well blowout, the investigation revealed numerous systems deficiencies, and acts and omissions by Transocean and its *Deepwater Horizon* crew, that had an adverse impact on the ability to prevent or limit the magnitude of the disaster. The report also states that a central cause of the blowout was failure of a cement barrier allowing hydrocarbons to flow up the wellbore, through the riser and onto the rig, resulting in the blowout. The loss of life and the subsequent pollution of the Gulf of Mexico were the result of poor risk

management, last-minute changes to plans, failure to observe and respond to critical indicators, inadequate well control response, and insufficient emergency bridge response training by companies and individuals responsible for drilling at the Macondo well and for the operation of the drilling platform.[21]

Spill response fund

On 16 June 2010, after BP executives met with President Obama, BP announced and established the Gulf Coast Claims Facility (GCCF), a $20 billion fund to settle claims arising from the Deepwater Horizon spill.[82][323] This fund was set aside for natural resource damages, state and local response costs, and individual compensation, but could not be used for fines or penalties.[82] Prior to establishing the GCCF, emergency compensation was paid by BP from an initial facility.[324]

President Barack Obama meets with EPA Administrator Lisa Jackson to discuss response to the spill.

The GCCF was administrated by attorney Kenneth Feinberg. The facility began accepting claims on 23 August 2010.[323] On 8 March 2012, after BP and a team of plaintiffs' attorneys agreed to a class-action settlement, a court-supervised administrator Patrick Juneau took over administration.[325][326] Until this more than one million claims of 220,000 individual and business claimants were processed and more than $6.2 billion was paid out from the fund. 97% of payments were made to claimants in the Gulf States.[324] In June 2012, the settlement of claims through the GCCF was replaced by the court supervised settlement program. During this transition period additional $404 million in claims were paid.[327]

The GCCF and its administrator Feinberg had been criticized about the amount and speed of payments as well as a lack of transparency.[328] An independent audit of the GCCF, announced by Attorney General Eric Holder, was approved by Senate on 21 October 2011.[329] An auditor BDO Consulting found that 7,300 claimants were wrongly denied or underpaid. As a result, about $64 million of additional payments was made.[325] The Mississippi Center for Justice provided pro bono assistance to 10,000 people to help them "navigate the complex claims process." In a *New York Times* (https://www.nytimes.com/2013/07/31/opinion/shirking-responsibility-in-the-gulf.html) opinion piece, Stephen Teague, staff attorney at the Mississippi Center for Justice, argued that BP had become "increasingly brazen" in "stonewalling payments." "But tens of thousands of gulf residents still haven't been fully compensated for their losses, and many are struggling to make ends meet. Many low-wage workers in the fishing and service industries, for example, have been seeking compensation for lost wages and jobs for three years."[330]

In July 2013, BP made a motion in court to freeze payments on tens of thousands of claims, arguing inter alia that a staff attorney from the Deepwater Horizon Court-Supervised Settlement Program, the program responsible for evaluating compensation claims, had improperly profited from claims filed by a New Orleans law firm. The attorney is said to have received portions of settlement claims for clients he referred to the firm.[330] The federal judge assigned to the case, Judge Barbier, refused to halt the settlement program, saying he had not seen evidence of widespread fraud, adding that he was "offended by what he saw as attempts to smear the lawyer administering the claims."[331]

Civil litigation and settlements

By 26 May 2010, over 130 lawsuits relating to the spill had been filed[332] against one or more of BP, Transocean, Cameron International Corporation, and Halliburton Energy Services,[333] although it was considered likely by observers that these would be combined into one court as a multidistrict litigation.[333] On 21 April 2011, BP issued $40 billion worth of lawsuits against rig owner Transocean, cementer Halliburton and blowout preventer manufacturer Cameron. The oil firm alleged failed safety systems and irresponsible behaviour of contractors had led to the explosion, including claims that Halliburton failed to properly use modelling software to analyze safe drilling conditions.[334] The firms deny the allegations.

On 2 March 2012, BP and plaintiffs agreed to settle their lawsuits. The deal would settle roughly 100,000 claims filled by individuals and businesses affected by the spill.[335][336] On 13 August, BP asked US District Judge Carl Barbier to approve the settlement, saying its actions "did not constitute gross negligence or willful misconduct".[337] On 13 January 2013, Judge Barbier approved a medical-benefits portion of BP's proposed $7.8 billion partial settlement. People living for at least 60 days along oil-impacted shores or involved in the clean-up who can document one or more specific health conditions caused by the oil or dispersants are eligible for benefits, as are those injured during clean-up.[338] BP also agreed to spend $105 million over five years to set up a Gulf Coast health outreach program and pay for medical examinations.[47] According to a group presenting the plaintiffs, the deal has no specific cap.[339] BP says that it has $9.5 billion in assets set aside in a trust to pay the claims, and the settlement will not increase the $37.2 billion the company budgeted for spill-related expenses.[335] BP originally expected to spend $7.8 billion. By October 2013 it had increased its projection to $9.2 billion, saying it could be "significantly higher."[340]

On 31 August 2012, the US Department of Justice (DOJ) filed papers in federal court in New Orleans blaming BP for the Gulf oil spill, describing the spill as an example of "gross negligence and willful misconduct." In their statement the DOJ said that some of BP's arguments were "plainly misleading" and that the court should ignore BP's argument that the Gulf region is "undergoing a robust recovery". BP rejected the charges saying "BP believes it was not grossly negligent and looks forward to presenting evidence on this issue at trial in January."[341][342] The DOJ also said Transocean, the owner and operator of the Deepwater Horizon rig, was guilty of gross negligence as well.[341][343]

On 14 November 2012, BP and the US Department of Justice reached a settlement. BP will pay $4.5 billion in fines and other payments, the largest of its kind in US history. In addition, the U.S. government temporarily banned BP from new federal contracts over its "lack of business integrity".[344][345] The plea was accepted by Judge Sarah Vance of the United States District Court for the Eastern District of Louisiana on 31 January 2013.[346] The settlement includes payments of $2.394 billion to the National Fish and Wildlife Foundation, $1.15 billion to the Oil Spill Liability Trust Fund, $350 million to the National Academy of Sciences for oil spill prevention and response research, $100 million to the North America Wetland Conservation Fund, $6 million to General Treasury and $525 million to the Securities and Exchange Commission.[24][61] Oil sector analysts at London-based investment bank Canaccord Genuity noted that a settlement along the lines disclosed would only be a partial resolution of the many claims against BP.[347]

On 3 January 2013, the US Justice Department announced "Transocean Deepwater Inc. has agreed to plead guilty to violating the Clean Water Act and to pay a total of $1.4 billion in civil and criminal fines and penalties".[348] $800 million goes to Gulf Coast restoration Trust Fund, $300 million to the Oil Spill Liability Trust Fund, $150 million to the National Wild Turkey Federation and $150 million to the National Academy of Sciences. MOEX Offshore 2007 agreed to pay $45 million to the Oil Spill Liability Trust Fund, $25 million to five Gulf state and $20 million to supplemental environmental projects.[61]

On 25 July 2013, Halliburton pleaded guilty to destruction of critical evidence after the oil spill and said it would pay the maximum allowable fine of $200,000 and will be subject to three years of probation.[349]

In January 2014, a panel of the U.S. Fifth Circuit Court of Appeals rejected an effort by BP to curb payment of what it described as "fictitious" and "absurd" claims to a settlement fund for businesses and persons affected by the oil spill. BP said administration of the 2012 settlement was marred by the fact that people without actual damages could file a claim. The court ruled that BP hadn't explained "how this court or the district court should identify or even discern the existence of 'claimants that have suffered no cognizable injury.'"[340] The Court then went further, calling BP's position "nonsensical."[350][351] The Supreme Court of the United States later refused to hear BP's appeal after victims and claimants, along with numerous Gulf coast area chambers of commerce, objected to the oil major's efforts to renege on the Settlement Agreement.[352]

In September 2014, Halliburton agreed to settle a large percentage of legal claims against it by paying $1.1 billion into a trust by way of three installments over two years.[353]

Justice Department lawsuit

BP and its partners in the oil well, Transocean and Halliburton, went on trial on February 25, 2013 in the United States District Court for the Eastern District of Louisiana in New Orleans to determine payouts and fines under the Clean Water Act and the Natural Resources Damage Assessment. The plaintiffs included the U.S. Justice Department, Gulf states and private individuals. Tens of billions of dollars in liability and fines were at stake. A finding of gross negligence would result in a four-fold increase in the fines BP would have to pay for violating the federal Clean Water Act, and leave the company liable for punitive damages for private claims.[354]

The trial's first phase was to determine the liability of BP, Transocean, Halliburton, and other companies, and if they acted with gross negligence and willful misconduct.[355][356] The second phase scheduled in September 2013 focused on the flow rate of the oil and the third phase scheduled in 2014 was to consider damages.[357] According to the plaintiffs' lawyers the major cause of an explosion was the mishandling of a rig safety test, while inadequate training of the staff, poor maintenance of the equipment and substandard cement were also mentioned as things leading to the disaster.[356][357] According to *The Wall Street Journal* the U.S. government and Gulf Coast states had prepared an offer to BP for a $16 billion settlement. However, it was not clear if this deal had been officially proposed to BP and if BP has accepted it.[358]

On 4 September 2014, U.S. District Judge Carl Barbier ruled BP was guilty of gross negligence and willful misconduct. He described BP's actions as "reckless." He said Transocean's and Halliburton's actions were "negligent." He apportioned 67% of the blame for the spill to BP, 30% to Transocean, and 3% to Halliburton. Fines would be apportioned commensurate with the degree of negligence of the parties, measured against the number of barrels of oil spilled. Under the Clean Water Act fines can be based on a cost per barrel of up to $4,300, at the discretion of the judge. The number of barrels was in dispute at the conclusion of the trial with BP arguing 2.5 million barrels were spilled over the 87 days the spill lasted, while the court contends 4.2 million barrels were spilled. BP issued a statement strongly disagreeing with the finding, and saying the court's decision would be appealed.[359]

Barbier ruled that BP had acted with “conscious disregard of known risks" and rejected BP's assertion that other parties were equally responsible for the oil spill. His ruling stated that BP "employees took risks that led to the largest environmental disaster in U.S. history", that the company was "reckless", and determined that several crucial BP decisions were "primarily driven by a desire to save time and money, rather than ensuring that the well was secure." BP strongly disagreed with the ruling and filed an immediate appeal.[29][360]

On 2 July 2015, BP, the U.S. Justice Department and five gulf states announced that the company agreed to pay a record settlement of $18.7 billion.[361] To date BP's cost for the clean-up, environmental and economic damages and penalties has reached $54 billion.[362]

Criminal charges

In addition to the private lawsuits and civil governmental actions, the federal government charged multiple companies and five individuals with federal crimes.

In the November 2012 resolution of the federal charges against it, BP agreed to plead guilty to 11 felony counts related to the deaths of the 11 workers and paid a $4 billion fine.[24] Transocean's plead guilty to a misdemeanor charge as part of its $1.4 billion fine.

In April 2012, the Justice Department filed the first criminal charge against Kurt Mix, a BP engineer, for obstructing justice by deleting messages showing that BP knew the flow rate was three times higher than initial claims by the company, and knew that "Top Kill" was unlikely to succeed, but claimed otherwise.[363][364][365] Three more BP employees were charged in November 2012. Site managers Donald Vidrine and Robert Kaluza were charged with manslaughter for acting negligently in their supervision of key safety tests performed on the rig prior to the explosion, and failure to alert onshore engineers of problems in the drilling operation.[366] David Rainey, BP's former vice-president for exploration in the Gulf of Mexico, was charged with

obstructing Congress by misrepresenting the rate that oil was flowing out of the well.[367] Lastly, Anthony Badalamenti, a Halliburton manager, was charged with instructing two employees to delete data related to Halliburton's cementing job on the oil well.[368]

None of the charges against individuals resulted in any prison time, and no charges were levied against upper level executives. Anthony Badalementi was sentenced to one year probation,[369] Donald Vidrine paid a $50,000 fine and received 10 months probation,[370] Kurt Mix received 6 months probation,[371] and David Rainey and Robert Kaluza were acquitted.[371][370]

In popular culture

Film and television

- In 2012, "We Just Decided To", the pilot of the HBO series *The Newsroom*, featured its characters covering the *Deepwater Horizon* story.[372]
- The 2015 film *The Runner*, directed by Austin Stark and starring Nicolas Cage, is a fictional story of a politician and his family set in the aftermath of the *Deepwater Horizon* disaster.[373][374]
- *Deepwater Horizon* is a 2016 film based on the explosion, directed by Peter Berg and starring Mark Wahlberg.

Music

- In June 2010, comedy musician Steve Goodie (http://www.SteveGoodie.com) wrote parody lyrics to The Doobie Brothers' hit song "Black Water" related to the BP oil spill. "Black Water [BP Version]" also had an accompanying video (https://www.youtube.com/watch?v=n5Z9W59Z5ZY) and was a Top Ten hit on the "Dr. Demento Show" (http://www.DrDemento.com).
- In 2011, Rise Against released a song titled "Help Is on the Way" on their album *Endgame*. The song is about the slow response time for aid to disaster-stricken areas, with lyrics that allude to the Macondo spill and Hurricane Katrina.[375]
- In 2012, the Dutch band Epica wrote a song titled "Deep Water Horizon" on their album Requiem for the Indifferent which highlighted humanities take on the effect we have on global warming inspired by the events of the oil spill.

See also

- Timeline of the *Deepwater Horizon* oil spill
- List of industrial disasters
- List of oil spills
- Taylor oil spill
- Offshore oil and gas in the US Gulf of Mexico

References

1. "Deepwater Horizon" (https://incidentnews.noaa.gov/incident/8220). National Oceanic and Atmospheric Administration. Retrieved 28 June 2019.
2. Deepwater Horizon Marine Casualty Investigation Report (http://www.register-iri.com/forms/upload/Republic_of_the_Marshall_Islands_DEEPWATER_HORIZON_Marine_Casualty_Investigation_Report-Low_Resolution.pdf) (PDF) (Report). Office of the Maritime Administrator. 17 August 2011. Retrieved 25 February 2013.
3. On Scene Coordinator Report on Deepwater Horizon Oil Spill (https://homeport.uscg.mil/Lists/Content/Attachments/119/DeepwaterHorizonReport%20-31Aug2011%20-CD_2.pdf) (PDF) (Report). September 2011. Archived (https://web.archive.org/web/20120915094912/http://www.uscg.mil/foia/docs/dwh/fosc_dwh_report.pdf) (PDF) from the original on 15 September 2012. Retrieved 10 August 2018.

4. "BP / Gulf Oil Spill – 68,000 Square Miles of Direct Impact" (https://web.archive.org/web/20100811031036/http://blog.skytruth.org/2010/07/bp-gulf-oil-spill-68000-square-miles-of.html) (Press release). SkyTruth.org. 27 July 2010. Archived from the original (http://blog.skytruth.org/2010/07/bp-gulf-oil-spill-68000-square-miles-of.html) on 11 August 2016. Retrieved 13 May 2001.
5. "Frontline: The Spill" (http://video.pbs.org/video/1625293496/). Frontline on PBS. 26 October 2010. Retrieved 27 April 2013.
6. Robertson, Campbell; Krauss, Clifford (2 August 2010). "Gulf Spill Is the Largest of Its Kind, Scientists Say" (https://www.nytimes.com/2010/08/03/us/03spill.html). *The New York Times*. Retrieved 12 August 2010.
7. "BP leak the world's worst accidental oil spill" (https://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/7924009/BP-leak-the-worlds-worst-accidental-oil-spill.html). *The Daily Telegraph*. London. 3 August 2010. Retrieved 15 August 2010.
8. Jervis, Rick; Levin, Alan (27 May 2010). "Obama, in Gulf, pledges to push on stopping leak" (http://usatoday30.usatoday.com/news/nation/2010-05-27-oil-spill-news_N.htm). *USA Today*. Associated Press. Retrieved 3 March 2013.
9. "Memorial service honors 11 dead oil rig workers" (http://usatoday30.usatoday.com/news/nation/2010-05-25-oil-spill-victims-memorial_N.htm). *USA Today*.
10. Weber, Harry R. (19 September 2010). "Blown-out BP well finally killed at bottom of Gulf" (http://www.boston.com/news/nation/articles/2010/09/19/blown_out_bp_well_finally_killed_at_bottom_of_gulf/). *Boston Globe*. Associated Press. Retrieved 26 February 2011.
11. Jamail, Dahr (4 March 2012). "BP settles while Macondo 'seeps' " (http://www.aljazeera.com/indepth/features/2012/03/20123313318459762.html). Al Jazeera. Retrieved 1 June 2012.
12. "Rocky Kistner: The Macondo Monkey on BP's Back" (http://www.huffingtonpost.com/rocky-kistner/the-macondo-monkey-on-bps_b_988262.html). *Huffington Post*. 30 September 2011. Retrieved 1 June 2012.
13. The Use of surface and Subsea Disperants During the BP Deewater Horizon Oil Spill. Draft (http://media.mcclatchydc.com/smedia/2010/10/06/18/_Staff_Report_No._4.source.prod_affiliate.91.pdf) (PDF) (Report). National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. 6 October 2010. Retrieved 17 February 2013.
14. Tangley, Laura (30 April 2010). "Bird Habitats Threatened by Oil Spill" (http://www.nwf.org/News-and-Magazines/National-Wildlife/Birds/Archives/2010/Oil-Spill-Birds.aspx). *National Wildlife*. National Wildlife Federation. Retrieved 3 May 2010.
15. Juhasz, Antonia (18 April 2012). "Investigation: Two Years After the BP Spill, A Hidden Health Crisis Festers" (http://www.thenation.com/article/167461/investigation-two-years-after-bp-spill-hidden-health-crisis-festers#). *The Nation*. Retrieved 3 February 2013.
16. "For BP Cleanup, 2013 Meant 4.6 Million Pounds Of Oily Gunk" (https://www.npr.org/2013/12/21/255843362/for-bp-cleanup-2013-meant-4-6-million-pounds-of-gulf-coast-oil). NPR.
17. "Oil from BP spill pushed onto shelf off Tampa Bay by underwater currents, study finds" (http://www.tampabay.com/news/environment/water/oil-from-bp-spill-was-pushed-onto-shelf-off-tampa-bay-by-underwater/2137406). *Tampa Bay Times*. 20 August 2013.
18. Viegas, Jen (2 April 2013). "Record Dolphin, Sea Turtle Deaths Since Gulf Spill" (https://web.archive.org/web/20160130231923/http://news.discovery.com/animals/whales-dolphins/record-dolphin-sea-turtle-deaths-since-gulf-spill-130402.htm). Archived from the original (http://news.discovery.com/animals/whales-dolphins/record-dolphin-sea-turtle-deaths-since-gulf-spill-130402.htm) on 30 January 2016.
19. Sahagun, Louis (13 February 2014). "Toxins released by oil spills send fish hearts into cardiac arrest" (http://www.latimes.com/science/sciencenow/la-sci-sn-tuna-hearts-oil-spill-toxins-20140213,0,5212912.story#ixzz2tbQVLgxl). *Los Angeles Times*. Retrieved 17 February 2014.
20. Wines, Michael (24 March 2014). "Fish Embryos Exposed to Oil From BP Spill Develop Deformities, a Study Finds" (https://www.nytimes.com/2014/03/25/us/fish-embryos-exposed-to-oil-from-bp-spill-develop-deformities-a-study-finds.html). *The New York Times*. Retrieved 25 March 2014.

21. Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE)/U.S. Coast Guard Joint Investigation Team (14 September 2011). "Deepwater Horizon Joint Investigation Team Releases Final Report" (https://web.archive.org/web/20110924075744/http://www.boemre.gov/ooc/press/2011/press0914.htm) (Press release). U.S. Government. Archived from the original (http://www.boemre.gov/ooc/press/2011/press0914.htm) on 24 September 2011. Retrieved 6 October 2011.
22. "BP Mostly, But Not Entirely, to Blame for Gulf Spill – National" (http://www.theatlanticwire.com/national/2011/09/bp-mostly-not-entirely-blame-gulf-spill/42470/). The Atlantic Wire. 14 September 2011. Retrieved 1 June 2012.
23. "Obama oil spill commission's final report blames disaster on cost-cutting by BP and partners" (https://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/8242557/Obama-oil-spill-commissions-final-report-blames-disaster-on-cost-cutting-by-BP-and-partners.html). *The Daily Telegraph*. London. 5 January 2011. Retrieved 5 November 2011.
24. Krauss, Clifford; Schwartz, John (15 November 2012). "BP Will Plead Guilty and Pay Over $4 Billion" (https://www.nytimes.com/2012/11/16/business/global/16iht-bp16.html). *The New York Times*. Retrieved 3 February 2013.
25. Muskal, Michael (29 January 2013). "BP pleads guilty to manslaughter in 2010 gulf oil spill" (http://www.latimes.com/news/nation/nationnow/la-na-nn-bp-pleads-guilty-to-manslaughter-in-2010-gulf-oil-spill-20130129,0,2609286.story). *Los Angeles Times*. Retrieved 3 February 2013.
26. Goldenberg, Suzanne; correspondent, US environment; Macalister, and Terry (28 November 2012). "BP suspended from new US federal contracts over Deepwater disaster" (https://www.theguardian.com/environment/2012/nov/28/epa-suspends-bp-oil-spill). *The Guardian*.
27. Bousso, Ron (16 January 2018). "BP Deepwater Horizon costs balloon to $65 billion" (https://uk.reuters.com/article/uk-bp-deepwaterhorizon/bp-deepwater-horizon-costs-balloon-to-65-billion-idUKKBN1F50O6). Reuters. Retrieved 31 May 2018.
28. Ward, Andrew (1 May 2018). "BP hints at future dividend increases" (https://www.ft.com/content/ab8a602e-4d18-11e8-8a8e-22951a2d8493). *Financial Times*. Retrieved 31 May 2018.
29. Robertson, Campbell; Krauss, Clifford (4 September 2014). "BP May Be Fined Up to $18 Billion for Spill in Gulf" (https://www.nytimes.com/2014/09/05/business/bp-negligent-in-2010-oil-spill-us-judge-rules.html). *The New York Times*. Retrieved 6 September 2014.
30. "BP reaches $18.7 billion settlement over deadly 2010 spill" (https://www.reuters.com/article/2015/07/02/us-bp-gulfmexico-settlement-idUSKCN0PC1BW20150702). *Reuters*. 2 July 2015.
31. Konrad, John; Shroder, Tom (2011). *Fire on the horizon the untold story of the Gulf oil disaster*. New York: HarperLuxe. p. 3. ISBN 9780062066541.
32. "Transocean :: Deepwater Horizon Drills World's Deepest Oil & Gas Well" (https://web.archive.org/web/20100426171257/http://www.deepwater.com/fw/main/IDeepwater-Horizon-i-Drills-Worlds-Deepest-Oil-and-Gas-Well-419C151.html). deepwater.com. 2012. Archived from the original (http://www.deepwater.com/fw/main/IDeepwater-Horizon-i-Drills-Worlds-Deepest-Oil-and-Gas-Well-419C151.html) on 26 April 2010. Retrieved 20 November 2012.
33. "Deepwater Horizon Sinks Offshore Louisiana" (http://www.rigzone.com/news/article.asp?a_id=91509). *RIGZONE Industry News, Stories, Analysis and Editorial*. 22 April 2010.
34. Jervis, Rick (21 April 2010). "At least 11 workers missing after La. oil rig explosion" (http://usatoday30.usatoday.com/news/nation/2010-04-21-louisiana-oil-rig_N.htm). *USA Today*. Associated Press. Retrieved 21 April 2010.
35. "BP confirms that Transocean Ltd issued the following statement today" (https://web.archive.org/web/20100425040406/http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7061443) (Press release). BP. 21 April 2010. Archived from the original (http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7061443) on 25 April 2010. Retrieved 21 April 2010.
36. "Offshore Field Development Projects: Macondo" (http://www.subseaiq.com/Data/Project.aspx?project_Id=562). Subsea.Org. Retrieved 18 May 2010.
37. Brenner, Noah; Guegel, Anthony; Hwee Hwee, Tan; Pitt, Anthea (22 April 2010). "Coast Guard confirms Horizon sinks" (http://www.upstreamonline.com/live/article212769.ece). *Upstream Online*. NHST Media Group. Retrieved 22 April 2010.
38. Schwartz, Naoki; Weber, Harry R. (1 May 2010). "Bubble of methane triggered rig blast" (http://www.scpr.org/news/2010/05/08/14902/bubble-methane-triggered-rig-blast/). Southern California Public Radio. Associated Press. Retrieved 29 June 2010.

39. Pendlebury, Richard (16 June 2010). "SPECIAL INVESTIGATION: Why is BP taking ALL the blame?" (http://www.dailymail.co.uk/news/article-1287226/GULF-OIL-SPILL-Whys-BP-taking-blame.html). *Daily Mail*. London.
40. Kaufman, Leslie (24 April 2010). "Search Ends for Missing Oil Rig Workers" (https://www.nytimes.com/2010/04/24/us/24spill.html). *The New York Times*. p. A8. Retrieved 24 April 2010.
41. Leader, Jessica (15 November 2012). "The 11 Workers Who Died During The Deepwater Horizon Explosion" (http://www.huffingtonpost.com/2012/11/15/gulf-oil-spill-deaths_n_2139669.html). *Huffington Post*.
42. Kirkham, Chris (22 April 2010). "Rescued oil rig explosion workers arrive to meet families at Kenner hotel" (http://www.nola.com/news/index.ssf/2010/04/rescued_oil_rig_workers_arrive.html). *The Times-Picayune*. Retrieved 22 April 2010.
43. "Coast Guard: Oil rig that exploded has sunk" (http://news.blogs.cnn.com/2010/04/22/coast-guard-oil-rig-that-exploded-has-sunk/). CNN. 22 April 2010. Retrieved 30 April 2010.
44. "US military joins Gulf of Mexico oil spill effort" (http://news.bbc.co.uk/2/hi/americas/8651624.stm). *BBC News*. 29 April 2010. Retrieved 29 April 2010.
45. Krauss, Clifford; Broder, John; Calmes, Jackie (30 May 2010). "White House Struggles as Criticism on Leak Mounts" (https://www.nytimes.com/2010/05/31/us/31spill.html). *The New York Times*. Retrieved 1 June 2010.
46. Henry, Ray (15 June 2010). "Scientists up estimate of leaking Gulf oil" (http://www.nbcnews.com/id/37717335/#slice-2). MSNBC. Associated Press. Retrieved 15 June 2010.
47. Kunzelman, Michael (11 January 2013). "BP Seeks Gulf Oil Spill Size Ruling From Judge" (http://www.huffingtonpost.com/2013/01/12/bp-seeks-judges-ruling-o_n_2459184.html). *Huffington Post*. Associated Press. Retrieved 20 January 2013.
48. Hoch, Maureen (2 August 2010). "New Estimate Puts Gulf Oil Leak at 205 Million Gallons" (https://www.pbs.org/newshour/rundown/2010/08/new-estimate-puts-oil-leak-at-49-million-barrels.html). *PBS NewsHour*. MacNeil/Lehrer Productions. Retrieved 19 December 2010.
49. Rudolf, John (8 December 2012). "New BP Oil Spill Emails Suggest Cover-Up" (http://www.huffingtonpost.com/2012/12/08/bp-oil-spill-flow-rate-emails_n_2260275.html). *Huffington Post*.
50. Kennedy, Charles Kennedy (10 December 2012). "The Cover Up: E-mails Show BP Lied to Authorities on The Deepwater Horizon Spill" (http://oilprice.com/Latest-Energy-News/World-News/The-Cover-Up-E-mails-Show-BP-Lied-to-Authorities-on-The-Deepwater-Horizon-Spill.html). OilPrice.com. Retrieved 14 February 2013.
51. Norse, Elliott A.; Amos, John (November 2010). "Impacts, Perception, and Policy Implications of the BP/Deepwater Horizon Oil and Gas Disaster" (http://mcbi.marine-conservation.org/publications/pub_pdfs/Norse-and-Amos-2010.pdf) (PDF). *Environmental Law Reporter*. **40** (11): 11058–11073. ISSN 0046-2284 (https://www.worldcat.org/issn/0046-2284). Retrieved 22 February 2013.
52. "Response To Oil on Gulf Island Beaches Continues" (http://www.nps.gov/applications/digest/headline.cfm?type=Incidents&id=5117) (Press release). National Park Service. 4 June 2010. Retrieved 13 June 2010.
53. Bluestein, Greg (3 June 2010). "BP has another setback as oil slick threatens Florida" (http://www.cleveland.com/business/index.ssf/2010/06/bp_frees_saw_from_pipe_oil_thr.html). *The Plain Dealer*. Associated Press. Retrieved 26 February 2011.
54. Kunzelman, Michael (24 June 2010). "Oil spewing once again in the Gulf" (http://www.myrtlebeachonline.com/2010/06/24/1550150/oil-spewing-once-again-in-the.html). *The Sun News*. Associated Press. Retrieved 24 June 2010.
55. McConnaughey, Janet; Stacy, Mitch (27 June 2010). "Admiral back on the Gulf Coast for spill" (https://web.archive.org/web/20120322111136/http://oilspilldisasters.com/admiral-gulf-coast-spill-976407a). *The Sun News*. Associated Press. Archived from the original (http://oilspilldisasters.com/admiral-gulf-coast-spill-976407a) on 22 March 2012. Retrieved 1 July 2010.
56. Lozano, Juan A. (6 July 2010). "BP spill spreads to Texas" (https://web.archive.org/web/20120403033053/http://www.myrtlebeachonline.com/2010/07/06/1571890/bp-spill-spreads-to-texas.html). *The Sun News*. Associated Press. Archived from the original (http://www.myrtlebeachonline.com/2010/07/06/1571890/bp-spill-spreads-to-texas.html) on 3 April 2012. Retrieved 6 July 2010.
57. Mui, Ylan Q.; Fahrenthold, David A. (7 July 2010). "Oil in Lake Pontchartrain stokes worries in New Orleans" (https://www.washingtonpost.com/wp-dyn/content/article/2010/07/06/AR2010070605045.html). *The Washington Post*. Retrieved 8 July 2010.

58. Marshall, Bob (12 September 2010). "New wave of oil comes ashore west of Mississippi River" (http://www.nola.com/outdoors/index.ssf/2010/09/new_wave_of_oil_comes_ashore_w.html). *The Times-Picayune*. Retrieved 14 September 2010.
59. "Massive stretches of weathered oil spotted in Gulf of Mexico" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/10/massive_stretches_of_weathered.html). *The Times-Picayune*. Nola.com. 23 October 2010. Retrieved 23 October 2010.
60. Polson, Jim (15 July 2011). "BP Oil Still Ashore One Year After End of Gulf Spill" (https://www.bloomberg.com/news/2011-07-15/bp-oil-still-washing-ashore-one-year-after-end-of-gulf-spill.html). Bloomberg. Retrieved 5 November 2011.
61. Ramseur, Jonathan L.; Hagerty, Curry L. (31 January 2013). Deepwater Horizon Oil Spill: Recent Activities and Ongoing Developments (https://fas.org/sgp/crs/misc/R42942.pdf) (PDF) (Report). CRS Report for Congress. Congressional Research Service. R42942. Retrieved 13 February 2013.
62. Adcroft, A.; R. Hallberg; J. P. Dunne; B. L. Samuels; J. A. Galt; C. H. Barker & D. Payton (2010). "Simulations of underwater plumes of dissolved oil in the Gulf of Mexico" (http://www.gfdl.noaa.gov/cms-filesystem-action?file=user_files/aja/2010gl044689-combined.pdf) (PDF). *Geophysical Research Letters*. **37** (18): L18605. Bibcode:2010GeoRL..3718605A (https://ui.adsabs.harvard.edu/abs/2010GeoRL..3718605A). doi:10.1029/2010GL044689 (https://doi.org/10.1029%2F2010GL044689).
63. Gillis, Justin; Robertson, Campbell (28 July 2010). "Gulf Surface Oil Vanishing Quickly" (https://www.nytimes.com/2010/07/28/us/28spill.html). *The New York Times*.
64. Bolsatd, Erika; Schoof, Renee; Talev, Margaret (5 August 2010). "Doubts follow rosy oil report" (https://web.archive.org/web/20120403033047/http://www.myrtlebeachonline.com/2010/08/05/1620679/doubts-follow-rosy-oil-report.html). *The Sun News*. Archived from the original (http://www.myrtlebeachonline.com/2010/08/05/1620679/doubts-follow-rosy-oil-report.html) on 3 April 2012. Retrieved 5 August 2010.
65. Zabarenko, Deborah (4 August 2010). "Nearly 3/4 of BP spill oil gone from Gulf" (https://www.reuters.com/article/2010/08/04/us-oil-spill-risk-idUSTRE6730IJ20100804). Reuters. Retrieved 15 August 2010.
66. "Scientists call new gulf spill report 'ludicrous' – Oneindia News" (http://news.oneindia.in/2010/08/06/scientistscall-new-gulf-spill-reportludicrous.html). News.oneindia.in. Retrieved 15 August 2010.
67. "Foul waters, hard lessons from BP oil spill" (http://edition.cnn.com/2011/OPINION/01/13/beinecke.gulf.oil.commission/). CNN. 13 January 2011.
68. Schleifstein, Mark (20 April 2012). "Spilled BP oil lingers on Louisiana coast" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2012/04/spilled_bp_oil_lingers_on_loui.html). *The Times-Picayune*. Retrieved 1 June 2012.
69. Schrope, Mark (26 January 2013). "Dirty blizzard buried Deepwater Horizon oil" (http://www.nature.com/news/dirty-blizzard-buried-deepwater-horizon-oil-1.12304). *Nature*. Retrieved 3 February 2013.
70. "40,000-Pound Tar Mat Reminds Us the Oil Spill is Not Over" (http://blog.nwf.org/2013/06/40000-pound-tar-mat-reminds-us-the-oil-spill-is-not-over/). 27 June 2013.
71. "BP Pulls Out of Gulf Cleanup, Leaving Unanswered Questions Behind" (http://www.huffingtonpost.com/2013/06/16/gulf-oil-spill-cleanup_n_3451488.html). *Huffington Post*. 16 June 2013.
72. Paul, John H.; Hollander, David; Coble, Paula; Daly, Kendra L.; Murasko, Sue; English, David; Basso, Jonelle; Delaney, Jennifer; McDaniel, Lauren; Kovach, Charles W. (3 September 2013). "Toxicity and Mutagenicity of Gulf of Mexico Waters During and After the Deepwater Horizon Oil Spill". *Environ. Sci. Technol*. **47** (17): 9651–9659. Bibcode:2013EnST...47.9651P (https://ui.adsabs.harvard.edu/abs/2013EnST...47.9651P). doi:10.1021/es401761h (https://doi.org/10.1021%2Fes401761h). PMID 23919351 (https://www.ncbi.nlm.nih.gov/pubmed/23919351).
73. Staff writer (25 April 2010). "Robot subs trying to stop Gulf oil leak" (http://www.cbc.ca/world/story/2010/04/25/oil-rig-leak.html). CBC News. Retrieved 25 April 2010.
74. "US oil spill 'threatens way of life', governor warns" (http://news.bbc.co.uk/2/hi/americas/8656627.stm). *BBC News*. 2 May 2010. Retrieved 2 May 2010.
75. Bolstad, Erika; Clark, Lesley; Chang, Daniel (14 May 2010). "Engineers work to place siphon tube at oil spill site" (https://www.thestar.com/news/world/2010/05/14/engineers_work_to_place_siphon_tube_at_oil_spill_site.html). *Toronto Star*. McClatchy Newspapers. Retrieved 14 May 2010.

76. "'Top kill' BP operation to half US oil leak fails" (https://www.bbc.co.uk/news/10191622). *BBC News*. 29 May 2010. Retrieved 29 May 2010.
77. "Top kill fails" (http://www.upstreamonline.com/live/article216214.ece). *Upstream Online*. NHST Media Group. 28 May 2010. Retrieved 1 June 2010.
78. Brenner, Noah; Guegel, Anthony; Pitt, Anthea (15 May 2010). "BP misses on first tube try" (http://www.upstreamonline.com/live/article215093.ece). *Upstream Online*. NHST Media Group. Retrieved 30 June 2010.
79. "Update on Gulf of Mexico Oil Spill Response – May 24" (https://web.archive.org/web/20100524113229/http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062283) (Press release). BP. 24 May 2010. Archived from the original (http://www.bp.com/genericarticle.do?categoryId=2012968&contentId=7062283) on 24 May 2010. Retrieved 24 May 2010.
80. Nuckols, Ben; Bluestein, Greg (27 May 2010). "Gulf awaits word on latest bid to plug oil leak" (http://www.knoxnews.com/news/2010/may/27/gulf-awaits-word-latest-bid-plug-oil-leak/). *Knoxville News*. Associated Press. Retrieved 29 June 2010.
81. Nelson, Melissa; Mohr, Holbrook (5 June 2010). "Oil stains beaches and tourists as slick spreads" (https://web.archive.org/web/20110430004459/http://www.cnbc.com/id/37527612/Oil_Stains_Beaches_and_Tourists_as_Slick_Spreads). CNBC. Associated Press. Archived from the original (https://www.cnbc.com/id/37527612/Oil_Stains_Beaches_and_Tourists_as_Slick_Spreads) on 30 April 2011. Retrieved 29 June 2010.
82. Brenner, Noah (17 June 2010). "Hayward says spill 'never should have happened'" (http://www.upstreamonline.com/live/article218091.ece). *Upstream Online*. NHST Media Group. Retrieved 17 June 2010.
83. Breen, Tom (9 July 2010). "Robots begin work to remove cap from gushing well" (http://www.bostonherald.com/news/national/south/view.bg?articleid=1267053). *Boston Herald*. Associated Press. Retrieved 26 February 2011.
84. Wells, Kent. "Sealing Cap Installation Animation" (http://bp.concerts.com/gom/sealingcapinstallationanimationwithkentwells070910.htm). BP. Retrieved 18 July 2010.
85. "BP begins testing new oil well cap" (http://www.aljazeera.com/news/americas/2010/07/20107150283268524.html). *Al Jazeera*. 15 July 2010. Retrieved 3 March 2013.
86. "Relief wells and Subsea containment illustration" (https://web.archive.org/web/20100720122111/http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/incident_response/STAGING/local_assets/images/relief_well_diagram.jpg). BP. Archived from the original (http://www.bp.com/liveassets/bp_internet/globalbp/globalbp_uk_english/incident_response/STAGING/local_assets/images/relief_well_diagram.jpg) on 20 July 2010.
87. "Second Macondo relief well under way" (http://www.upstreamonline.com/live/article215111.ece). *Upstream Online*. NHST Media Group. 17 May 2010. Retrieved 25 May 2010.
88. Vergano, Dan (14 June 2010). "Relief wells aim at pipe 18,000 feet deep" (http://usatoday30.usatoday.com/news/nation/2010-06-14-oil-relief-well_N.htm). *USA Today*. Retrieved 15 June 2010.
89. The Oil Drum (4 August 2010). "BP's Deepwater Oil Spill – Tests End and the Kill Begins, Well Reaches Static Condition" (http://www.theoildrum.com/node/6810). Theoildrum.com. Retrieved 27 December 2011.
90. Achenbach, Joel; Mufson, Steven; Branigin, William (5 August 2010). "BP begins pumping cement in next stage of 'static kill'" (https://www.washingtonpost.com/wp-dyn/content/article/2010/08/05/AR2010080503076.html). *The Washington Post*. Retrieved 27 December 2011.
91. "BP: Blowout preventer that failed to stop Gulf of Mexico oil leak removed from well" (http://www.foxnews.com/us/2010/09/03/crews-prepare-raise-failed-blowout-preventer-key-piece-evidence-bps-oil-spill/). Fox News Channel. Associated Press. 3 September 2010. Retrieved 3 September 2010.
92. "Failed blowout preventer, a key piece of evidence in Gulf oil spill probe, secure on boat" (http://www.foxnews.com/us/2010/09/04/bp-crews-raising-blowout-preventer-gulf-face-delay-wait-hydrates-melt/). Fox News Channel. Associated Press. 4 September 2010. Retrieved 5 September 2010.
93. "BP: Cement being pumped in to permanently seal the company's blown-out well in Gulf of Mexico" (http://www.foxnews.com/us/2010/09/16/government-relief-intersected-blown-bp-gulf-mexico/). Fox News Channel. 16 September 2010. Retrieved 18 September 2010.
94. Mufson, Steven; Hilzenrath, David S. (31 May 2010). "Oil could spew until August, officials say" (https://www.washingtonpost.com/wp-dyn/content/article/2010/05/30/AR2010053002195_pf.html). *The Washington Post*. Retrieved 14 February 2013.

95. *Fresh oil hits Louisiana coast* (http://www.nbcnews.com/video/nightly-news/42220680). MSNBC. 22 March 2011. Retrieved 14 February 2013.
96. Jamail, Dahr. "No end in sight for oil in the Gulf of Mexico" (http://www.aljazeera.com/indepth/features/2011/09/201191217541210955 0.html). Al Jazeera.
97. Jamail, Dahr (1 September 2011). "The return of the BP disaster?" (http://www.aljazeera.com/news/americas/2011/09/201191163236563698.html). Al Jazeera. Retrieved 5 November 2011.
98. "Oil in new Gulf slick matches that of 2010 spill" (https://www.washingtonpost.com/business/economy/oil-in-new-gulf-slick-matches-that-of-2010-spill/2012/10/10/1f2b937c-1336-11e2-be82-c3411b7680a9_story.html). *Washington Post*.
99. Lavelle, Marianne (13 October 2012). "Probe Deepens on New Oil Linked to BP Site" (http://www.greatenergychallengeblog.com/2012/10/13/probe-deepens-on-new-oil-linked-to-bp-site/). Great Energy Challenge Blog.
100. Aeppli_2013
101. "20130127-Calm seas but troubled waters" (https://web.archive.org/web/20130204195851/http://onwingsofcare.org/protection-a-preservation/gulf-of-mexico-oil-spill-2010/gulf-2013/359-20130127-calm-seas-troubled-waters.html). Onwingsofcare.org. Archived from the original (http://www.onwingsofcare.org/protection-a-preservation/gulf-of-mexico-oil-spill-2010/gulf-2013/359-20130127-calm-seas-troubled-waters.html) on 4 February 2013. Retrieved 16 February 2013.
102. Ben Raines, Press-Register. "Scientists: Oil fouling Gulf matches Deepwater Horizon well (photo gallery, video) | al.com" (http://blog.al.com/live/2011/08/scientists_oil_fouling_gulf_co.html). Blog.al.com. Retrieved 5 November 2011.
103. Schleifstein, Mark (26 November 2012). "Coast Guard, BP investigating reports of oil at Deepwater Horizon site" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2011/08/bp_coast_guard_bp_investigatin.html). *The Times-Picayune*. Retrieved 5 November 2011.
104. "Coast Guard says oil sheen 16 miles northeast of BP well too dispersed to be recovered" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2011/09/coast_guard_says_oil_sheen_16.html). NOLA.
105. "Sheen at Deepwater Horizon disaster site is BP oil, Coast Guard says" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2012/10/sheen_at_deepwater_horizon_dis.html). NOLA.
106. "Coast Guard Says Sheen Near Macondo Matches 2010 BP Spill" (https://web.archive.org/web/20121016084502/http://www.businessweek.com/news/2012-10-11/coast-guard-says-sheen-near-macondo-site-matches-2010-bp-spill). *Bloomberg Businessweek*. 11 October 2012. Archived from the original (http://www.businessweek.com/news/2012-10-11/coast-guard-says-sheen-near-macondo-site-matches-2010-bp-spill) on 16 October 2012. Retrieved 16 February 2013.
107. Attkisson, Sharyl (17 December 2012). "BP finishes latest search for Gulf oil leaks" (http://www.cbsnews.com/8301-201_162-57559656/bp-finishes-latest-search-for-gulf-oil-leaks/). CBS News. Retrieved 13 February 2013.
108. Attkisson, Sharyl (13 December 2012). "Oil may be seeping from Deepwater Horizon site" (http://www.cbsnews.com/8301-505263_162-57558916/oil-may-be-seeping-from-deepwater-horizon-site/). CBS News. Retrieved 13 February 2013.
109. Schleifstein, Mark (25 October 2012). "Source of new oil sheen near Deepwater Horizon site has been plugged, BP says" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2012/10/plan_to_cap_and_plug_containme.html). *The Times-Picayune*. Retrieved 13 February 2013.
110. Schleifstein, Mark (28 December 2012). "BP Macondo well, Deepwater Horizon wreckage videos released by Coast Guard" (http://www.nola.com/environment/index.ssf/2012/12/coast_guard_releases_videos_of.html). *The Times-Picayune*. Retrieved 13 February 2013.
111. Attkisson, Sharyl (31 January 2013). "Unknown substance leaking from Deepwater Horizon site" (http://www.cbsnews.com/8301-201_162-57566991/unknown-substance-leaking-from-deepwater-horizon-site/). CBS News. Retrieved 13 February 2013.
112. Roach, John (31 January 2013). "Mystery 'oil sheen' grows near site of BP Gulf disaster, says researcher" (http://science.nbcnews.com/_news/2013/01/31/16792048-mystery-oil-sheen-grows-near-site-of-bp-gulf-disaster-says-researcher). *NBC News*. Retrieved 21 February 2014.

113. Suzanne Goldenberg, US environment correspondent (19 August 2010). "BP oil spill: US scientist retracts assurances over success of cleanup | Environment" (https://www.theguardian.com/environment/2010/aug/19/bp-oil-spill-scientist-retracts-assurances). *The Guardian*. London. Retrieved 5 September 2010.
114. Kerr, Richard A. (13 August 2010). "A Lot of Oil on the Loose, Not So Much to Be Found" (http://school.judsonisd.org/webpages/ameeks/files/Science%20Around%20the%20World%208-16-2010.pdf) (PDF). *Science*. **329** (5993): 734–5. Bibcode:2010Sci...329..734K (https://ui.adsabs.harvard.edu/abs/2010Sci...329..734K). doi:10.1126/science.329.5993.734 (https://doi.org/10.1126%2Fscience.329.5993.734). PMID 20705818 (https://www.ncbi.nlm.nih.gov/pubmed/20705818).
115. "Tar Balls from BP Oil Spill Wash Up on Gulf Beaches" (http://news.nationalgeographic.com/news/energy/2012/03/120322-gulf-oil-spill-tar-balls-wash-up-on-beaches/). *National Geographic*. 22 March 2012.
116. "Florida Keys environmentalists act to protect against BP oil spill summer 2010 | Global Nonviolent Action Database" (https://nvdatabase.swarthmore.edu/content/florida-keys-environmentalists-act-protect-against-bp-oil-spill-summer-2010). *nvdatabase.swarthmore.edu*. Retrieved 28 September 2017.
117. Butler, J. Steven (3 March 2011). *BP Macondo Well Incident. U.S. Gulf of Mexico. Pollution Containment and Remediation Efforts* (https://web.archive.org/web/20140821001051/http://www.energyclaims.net/assets/Macondo-well-PC%26R.pdf) (PDF). Lillehammer Energy Claims Conference. BDO Consulting. Archived from the original (http://www.energyclaims.net/assets/Macondo-well-PC&R.pdf) (PDF) on 21 August 2014. Retrieved 17 February 2013.
118. Containment boom effort comes up short in BP oil spill (http://www.csmonitor.com/USA/2010/0611/Containment-boom-effort-comes-up-short-in-BP-oil-spill). *The Christian Science Monitor*. (11 June 2010). Retrieved 7 April 2011.
119. Klein, Naomi (19 June 2010). "BP oil spill Deepwater Horizon, BP (Business), Oil spills (Environment), Oil and gas companies (Business), Oil (environment), Oil (business), US news, Conservation (Environment), Pollution (Environment), World news, Environment, Business" (https://www.theguardian.com/theguardian/2010/jun/19/naomi-klein-gulf-oil-spill). *The Guardian*. London.
120. BP spill response plans severely flawed | MNN – Mother Nature Network (http://www.mnn.com/earth-matters/wilderness-resources/stories/bp-spill-response-plans-severely-flawed) Archived (https://web.archive.org/web/20130517012006/http://www.mnn.com/earth-matters/wilderness-resources/stories/bp-spill-response-plans-severely-flawed) 17 May 2013 at the Wayback Machine
121. "Slosh and Berm: Building Sand Barriers off Louisiana's Coast to Hold Back Oil Spill Has Low Probability of Success" (http://www.scientificamerican.com/article.cfm?id=oil-spill-may-change-shape-of-gulf-coast-louisiana) David Biello in *Scientific American* 8 June 2010. Retrieved 19 July 2010
122. "Are the Sand Berms Really Stopping Oil?" (http://www.popularmechanics.com/technology/engineering/infrastructure/sand-berm-oil-cleanup-bp-spill). *Popular Mechanics*. 22 July 2010.
123. "Sand berms partially political" (http://www.2theadvocate.com/news/98183534.html) article by Amy Wold in *The Advocate* 11 July 2010. Retrieved 19 July 2010 Archived (https://web.archive.org/web/20100712221629/http://www.2theadvocate.com/news/98183534.html) 12 July 2010 at the Wayback Machine
124. EPA slams Jindal's sand berm plan | wwltv.com New Orleans (http://www.wwltv.com/news/gulf-oil-spill/EPA-slams-Jindals-sand-berm-plan-102590289.html) Archived (https://web.archive.org/web/20140726225738/http://www.wwltv.com/news/gulf-oil-spill/EPA-slams-Jindals-sand-berm-plan-102590289.html) 26 July 2014 at the Wayback Machine
125. "How can human hair mop up the oil spill?" (http://news.bbc.co.uk/2/hi/uk_news/magazine/8674539.stm). *BBC News*. 11 May 2010. Retrieved 5 June 2018.
126. Farhi, Paul (8 May 2010). "Matter of Trust creates hair-and-nylon booms to help clean up BP oil spill in Gulf" (https://www.washingtonpost.com/wp-dyn/content/article/2010/05/07/AR2010050704893.html). *Washington Post*. Retrieved 5 June 2018.
127. Swartz, Spencer (3 September 2010). "BP Provides Lessons Learned From Gulf Spill" (https://www.wsj.com/articles/SB10001424052748703946504575469691667534962). *The Wall Street Journal*. Retrieved 5 September 2010.
128. "Oil dispersants used in Gulf of Mexico spill causing alarm" (http://blog.al.com/al/2010/05/oil_spill_dispersants_could_be.html).

129. Lustgarten, Abrahm (30 April 2010). "Chemicals Meant To Break Up BP Oil Spill Present New Environmental Concerns" (https://www.propublica.org/article/bp-gulf-oil-spill-dispersants-0430). ProPublica.
130. "Migratory Birds Carry Chemicals from BP Oil Spill to Minnesota Two Years After Disaster" (https://web.archive.org/web/20130119170514/http://magblog.audubon.org/migratory-birds-carry-chemicals-bp-oil-spill-minnesota-two-years-after-disaster). Audubon. 23 May 2012. Archived from the original (http://magblog.audubon.org/migratory-birds-carry-chemicals-bp-oil-spill-minnesota-two-years-after-disaster) on 19 January 2013.
131. Blair, Kimberly (26 September 2011). "DISPERANTS: Chemicals BP used may cause cancer" (https://web.archive.org/web/20130728141637/http://pqasb.pqarchiver.com/pnj/access/2468189491.html?FMT=ABS&date=Sep+26%2C+2011). *Pensacola News Journal*. Archived from the original (https://pqasb.pqarchiver.com/pnj/access/2468189491.html?FMT=ABS&date=Sep+26%2C+2011) on 28 July 2013.
132. Suzanne Goldenberg (5 May 2010). "Dispersant 'may make Deepwater Horizon oil spill more toxic' | Environment" (https://www.theguardian.com/environment/2010/may/05/dispersant-deepwater-horizon-oil-toxic). *The Guardian*. London. Retrieved 5 September 2010.
133. Bolstad, Erika; Clark, Lesley (2 August 2010). "Government defends BP's use of dispersants, but worries linger" (https://web.archive.org/web/20100803191027/http://www.mcclatchydc.com/2010/08/02/98508/government-defends-bps-use-of.html). McClatchy Newspapers. Archived from the original (http://www.mcclatchydc.com/2010/08/02/98508/government-defends-bps-use-of.html) on 3 August 2010. Retrieved 3 August 2010.
134. (Photo credit Jerry Moran\Native Orleanian). "Degraded oil in Mississippi Sound tests positive for dispersants, says lawyer | al.com" (http://blog.al.com/live/2010/08/degraded_oil_in_mississippi_so.html). Blog.al.com. Retrieved 5 September 2010.
135. "Riki Ott: An Open Letter to US EPA, Region 6" (http://www.huffingtonpost.com/riki-ott/an-open-letter-to-us-epa_b_697376.html). *Huffington Post*. 27 August 2010. Retrieved 5 September 2010.
136. "Corexit: Deadly Dispersant in Oil Spill Cleanup" (http://www.whistleblower.org/program-areas/public-health/corexit). *GAP*. Retrieved 1 April 2014.
137. "What are oil dispersants?" (http://edition.cnn.com/2010/US/studentnews/05/15/oil.spill.dispersants/). CNN. 15 May 2010. Retrieved 2 July 2010.
138. Mark Guarino (15 May 2010). "In Gulf oil spill, how helpful – or damaging – are dispersants?" (http://www.csmonitor.com/USA/2010/0515/In-Gulf-oil-spill-how-helpful-or-damaging-are-dispersants). *The Christian Science Monitor*.
139. Mark Guarino (17 May 2010). "Gulf oil spill: Has BP 'turned corner' with siphon success?" (http://www.csmonitor.com/USA/2010/0517/Gulf-oil-spill-Has-BP-turned-corner-with-siphon-success). *The Christian Science Monitor*.
140. "National Contingency Plan Product Schedule" (https://web.archive.org/web/20100521003529/http://www.epa.gov/emergencies/content/ncp/product_schedule.htm). Environmental Protection Agency. 13 May 2010. Archived from the original (http://www.epa.gov/emergencies/content/ncp/product_schedule.htm) on 21 May 2010. Retrieved 21 May 2010.
141. "Dispersant Monitoring and Assessment Directive – Addendum" (https://web.archive.org/web/20100523120141/http://www.epa.gov/bpspill/dispersants/directive-addendum2.pdf) (PDF). Environmental Protection Agency. 20 May 2010. Archived from the original (http://www.epa.gov/bpspill/dispersants/directive-addendum2.pdf) (PDF) on 23 May 2010. Retrieved 20 May 2010.
142. Tilove, Jonathan (21 May 2010). "BP is sticking with its dispersant choice" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/05/bp_is_sticking_with_its_disper.html). *Times-Picayune*. Retrieved 22 May 2010.
143. Wald, Matthew L. (31 July 2010). "BP Used Much Dispersant Despite E.P.A. Directive of Rarely" (https://www.nytimes.com/2010/08/01/science/earth/01dispersants.html). *The New York Times*.
144. Elisabeth Rosenthal (24 May 2010). "In Standoff With Environmental Officials, BP Stays With an Oil Spill Dispersant" (https://www.nytimes.com/2010/05/25/science/earth/25disperse.html). *The New York Times*. Retrieved 25 May 2010.
145. Jackson, Lisa P. (24 May 2010). "Statement by EPA Administrator Lisa P. Jackson from Press Conference on Dispersant Use in the Gulf of Mexico with U.S. Coast Guard Rear Admiral Landry" (http://www.epa.gov/bpspill/dispersants/statement-dispersant-use-may24.pdf) (PDF). Environmental Protection Agency. Retrieved 25 May 2010.

146. Lavandera, Ed (3 June 2010). "Dispersants flow into Gulf in 'science experiment' " (http://edition.cnn.com/2010/US/07/02/gulf.oil.dispersants/index.html). CNN. Retrieved 2 August 2010.
147. Goldenberg, Suzanne (3 August 2010). "BP oil spill: Obama administration's scientists admit alarm over chemicals" (https://www.theguardian.com/environment/2010/aug/03/gulf-oil-spill-chemicals-epa). *The Guardian*. London. Retrieved 8 August 2010.
148. Khan, Amina (4 September 2010). "Gulf oil spill: Effects of dispersants remain a mystery" (http://articles.latimes.com/2010/sep/04/science/la-sci-dispersants-20100905). *Los Angeles Times*. Retrieved 5 September 2010.
149. "22-mile-long oily plume mapped near BP site – Disaster in the Gulf" (http://www.nbcnews.com/id/38770508/). MSNBC. 19 August 2010. Retrieved 5 September 2010.
150. AOL. "News & latest headlines from AOL" (http://www.aol.com/news/). AOL.
151. "Drowning in Oil" (http://www.newsweek.com/what-bp-doesnt-want-you-know-about-2010-gulf-spill-63015). *Newsweek*. 22 April 2013.
152. "Chemical Dispersant Made BP Oilspill 52 Times More Toxic" (https://www.motherjones.com/blue-marble/2012/12/chemical-dispersant-made-bps-gulf-oilspill-52-times-more-toxic). *Mother Jones*.
153. "Dispersant makes oil from spills 52 times more toxic" (http://www.msnbc.msn.com/id/50032789/ns/technology_and_science-science/t/dispersant-makes-oil-spills-times-more-toxic/). MSNBC. 30 November 2012.
154. Schoof, Renee (17 July 2010). "Mother Nature left to mop up oily mess" (https://web.archive.org/web/20120320071819/http://www.myrtlebeachonline.com/2010/07/17/1590417/mother-nature-left-to-mop-up-oily.html). *The Sun News*. Archived from the original (http://www.myrtlebeachonline.com/2010/07/17/1590417/mother-nature-left-to-mop-up-oily.html) on 20 March 2012. Retrieved 17 July 2010.
155. "Burning off oil from BP spill in Gulf posed little health risk, feds say in new report (video)" (http://blog.al.com/wire/2010/11/bp_oil_burn_health_risk.html).
156. Why Is the Gulf Cleanup So Slow? (https://www.wsj.com/articles/SB10001424052748703426004575339650877298556), *The Wall Street Journal*, 2 July 2010
157. Rioux, Paul (16 July 2010). "Giant oil skimmer 'A Whale' deemed a bust for Gulf of Mexico spill" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/07/giant_oil_skimmer_a_whale_deem.html). *The Times-Picayune*. Retrieved 2 August 2010.
158. Gabbatt, Adam (16 June 2010). BP oil spill: Kevin Costner's oil-water separation machines help with clean-up (https://www.theguardian.com/environment/2010/jun/16/kevin-costner-oil-spill-machines). *The Guardian*.
159. Fountain, Henry (24 June 2010). "Advances in Oil Spill Cleanup Lag Since Valdez" (https://www.nytimes.com/2010/06/25/us/25clean.html). *The New York Times*. Retrieved 5 July 2010.
160. Clarke, Sanchez, Bonfiles, Escobedo (15 June 2010). "BP 'Excited' Over Kevin Costner's Oil Cleanup Machine, Purchases 32" (http://abcnews.go.com/GMA/Broadcast/bp-excited-kevin-costners-oil-cleanup-machine-purchases/story?id=10916445). ABC News Good Morning America.
161. "Gulf of Mexico Oil Spill Response: Current Operations as of June 28" (https://web.archive.org/web/20100630120227/http://www.deepwaterhorizonresponse.com/go/doc/2931/716951/). Deep Water Horizon Unified Command Agency. 28 June 2010. Archived from the original (http://www.deepwaterhorizonresponse.com/go/doc/2931/716951/) on 30 June 2010. Retrieved 28 June 2010.
162. Kintisch, Eli (13 August 2010). "An Audacious Decision in Crisis Gets Cautious Praise" (https://web.archive.org/web/20130729063955/http://www.strategicsciencesworkinggroup.com/omeka-1.2.1/archive/files/08132010sciencekintisch_0c67e8dae0.pdf) (PDF). *Science*. **329** (5993): 735–736. Bibcode:2010Sci...329..735K (https://ui.adsabs.harvard.edu/abs/2010Sci...329..735K). doi:10.1126/science.329.5993.735 (https://doi.org/10.1126%2Fscience.329.5993.735). PMID 20705819 (https://www.ncbi.nlm.nih.gov/pubmed/20705819). Archived from the original (http://www.strategicsciencesworkinggroup.com/omeka-1.2.1/archive/files/08132010sciencekintisch_0c67e8dae0.pdf) (PDF) on 29 July 2013. Retrieved 18 February 2013.

163. Valentine, David L.; et al. (2011). "Dynamic autoinoculation and the microbial ecology of a deep water hydrocarbon irruption" (http://www.netl.doe.gov/technologies/oil-gas/publications/Hydrates/2012reports/nt0005667-nas-valentine.pdf) (PDF). *Proceedings of the National Academy of Sciences of the United States of America*. **109** (50): 20286–20291. Bibcode:2012PNAS..10920286V (https://ui.adsabs.harvard.edu/abs/2012PNAS..10920286V). doi:10.1073/pnas.1108820109 (https://doi.org/10.1073%2Fpnas.1108820109). PMC 3528554 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3528554). PMID 22233808 (https://www.ncbi.nlm.nih.gov/pubmed/22233808). Retrieved 13 February 2013.
164. Brown, Eryn (16 September 2010). "Bacteria in the gulf mostly digested gas, not oil, study finds" (http://articles.latimes.com/2010/sep/16/science/la-sci-oil-20100917). *Los Angeles Times*.
165. Biello, David. "How Microbes Helped Clean BP's Oil Spill" (http://www.scientificamerican.com/article/how-microbes-helped-clean-bp-s-oil-spill). *Scientific American*.
166. Oil-eating microbes may not be all they're cracked up to be | The Upshot Yahoo! News (https://news.yahoo.com/blogs/upshot/oil-eating-microbes-may-not-cracked.html). Yahoo!!! News. Retrieved 7 April 2011.
167. Biello, David (28 April 2015). "How Microbes Helped Clean BP's Oil Spill" (https://www.scientificamerican.com/article/how-microbes-helped-clean-bp-s-oil-spill/). *Scientific American*. Retrieved 26 December 2017. "The microbes did a spectacular job of eating a lot of the natural gas"
168. Biello, David (25 May 2010). "Slick Solution: How Microbes Will Clean Up the Deepwater Horizon Oil Spill" (https://www.scientificamerican.com/article/how-microbes-clean-up-oil-spills/). *Scientific American*. Retrieved 26 December 2017.
169. Riki Ott: Bio-Remediation or Bio-Hazard? Dispersants, Bacteria and Illness in the Gulf (http://www.huffingtonpost.com/riki-ott/bio-remediation-or-bio-ha_b_720461.html). *Huffington Post*. Retrieved 7 April 2011.
170. "West Siberian research institute to help clean up Deepwater Horizon spill" (http://en.rian.ru/business/20100727/159965187.html). Moscow. RIA Novosti. 27 July 2010. Retrieved 8 August 2013.
171. Marisa Taylor and Renee Schoof for McClatchy Newspapers, 18 May 2010. BP withholds oil spill facts — and government lets it (http://www.mcclatchydc.com/2010/05/18/94415/bps-secrecy-keep-facts-on-gulf.html#ixzz0oOgEMK7i#storylink=cpy)
172. Gerald Baron for Crisisblogger, 8 June 2012. White House and BP legal wrangling: more damage to collaborative work in disaster response (http://ww2.crisisblogger.com/2012/06/white-house-and-bp-legal-wrangling-more-damage-to-collaborative-work-in-disaster-response/)
173. Jeremy W Peters for the New York Times, 9 June 2010 Efforts to Limit the Flow of Spill News (https://www.nytimes.com/2010/06/10/us/10access.html)
174. "Deepwater Horizon NOTAM Overview: Air Traffic Organization, System Operations, Security" (http://www.justhelicopters.com/LinkClick.aspx?fileticket=MolrT7%2FHzdY%3D&tabid=434) (PPT). Federal Aviation Administration. 25 July 2010. Retrieved 11 April 2013.
175. Huber, Mark (January 2011). "The Other Gulf War" (http://www.airspacemag.com/flight-today/The-Other-Gulf-War.html). *Air & Space*. Retrieved 11 April 2013.
176. Warren, Michael (11 June 2010). "Is BP Stopping Journalists from Observing the Oil Slick?" (http://www.weeklystandard.com/blogs/bp-stopping-journalists-observing-oil-slick). *The Weekly Standard*. Retrieved 11 April 2013.
177. Maggi, Laura (29 May 2010). "Limits on access to oiled waters, coast frustrates journalists" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2010/05/limits_on_access_to_oiled_wate.html). *The Times-Picayune*. Retrieved 11 April 2013.
178. CBS News May 18, 2010 Broadcast (http://www.cbsnews.com/video/watch/?id=6496749n)
179. Mac McClelland for Mother Jones, 24 May 2010. "It's BP's Oil': Running the Corporate Blockade at Louisiana's Crude-Covered Beaches (https://www.motherjones.com/environment/2010/05/oil-spill-bp-grand-isle-beach)
180. Matthew Philips, "BP's Photo Blockade of the Gulf Oil Spill: Photographers Say BP and Government Officials Are Preventing Them from Documenting the Impact of the Deepwater Horizon Disaster" (http://www.thedailybeast.com/newsweek/2010/05/26/the-missing-oil-spill-photos.html), *Newsweek*, 25 May 2010.
181. Matthew Lysiak and Helen Kennedy, "Dying, dead marine wildlife paint dark, morbid picture of Gulf Coast following oil spill" (http://www.nydailynews.com/news/national/oil-spill-disaster-survival-grand-isle-la-doubt-tourism-cash-trickling-halt-article-1.178303), *Daily News* (New York), 2 June 2010.

182. Dan Zak for the Washington Post, 3 June 2010. As oil spread, did BP battle to contain the media? (https://www.washingtonpost.com/wp-dyn/content/article/2010/06/03/AR2010060300848.html)
183. NPR. 4 June 2010 Transcript: Media Encounter Access Problems While Covering The Oil Spill (http://www.onthemedia.org/2010/jun/04/media-encounter-access-problems-while-covering-the-oil-spill/transcript/) Archived (https://web.archive.org/web/20130517074225/http://www.onthemedia.org/2010/jun/04/media-encounter-access-problems-while-covering-the-oil-spill/transcript/) 17 May 2013 at the Wayback Machine
184. "Coast Guard Under 'BP's Rules" (http://www.cbsnews.com/video/watch/?id=6496749n). CBS Evening News. 18 May 2010.
185. PR Newser, 20 May 2010, Crisis Communications, CBS Denied Access to Shoot Oil Spill (http://www.mediabistro.com/prnewser/cbs-denied-access-to-shoot-oil-spill-coast-guard-and-contractors-say-this-is-bps-rules-not-ours_b3711)
186. "Gulf Oil Spill" (http://ocean.si.edu/gulf-oil-spill). *Smithsonian Ocean Portal*. Retrieved 23 November 2015.
187. GulfSource.org (http://www.gulfsource.org/) Archived (http://arquivo.pt/wayback/20160517175405/http://www.gulfsource.org/) 17 May 2016 at the Portuguese Web Archive
188. Biello, David (9 June 2010). "The BP Spill's Growing Toll on the Sea Life of the Gulf" (https://web.archive.org/web/20100612181943/http://www.e360.yale.edu/content/feature.msp?id=2284). *Yale Environment 360*. Yale School of Forestry & Environmental Studies. Archived from the original (http://www.e360.yale.edu/content/feature.msp?id=2284) on 12 June 2010. Retrieved 14 June 2010.
189. Shirley, Thomas C.; John W. Tunnell Jr.; Fabio Moretzsohn; Jorge Brenner (May 2010). "Biodiversity of the Gulf of Mexico: Applications to the Deep Horizon oil spill" (https://web.archive.org/web/20160130231923/http://www.harteresearchinstitute.org/images/press_releases/biodiversity.pdf) (PDF) (Press release). Harte Research Institute for Gulf of Mexico Studies, Texas A&M University. Archived from the original (http://www.harteresearchinstitute.org/images/press_releases/biodiversity.pdf) (PDF) on 30 January 2016. Retrieved 14 June 2010.
190. "OSU researchers find heightened levels of known carcinogens in Gulf – News and Research Communications" (http://oregonstate.edu/ua/ncs/archives/2010/sep/osu-researchers-find-heightened-levels-known-carcinogens-gulf). Oregon State University. 30 September 2010.
191. Schneyer, Joshua (27 September 2010). "U.S. oil spill waters contain carcinogens: report" (https://www.reuters.com/article/2010/09/30/us-oil-spill-carcinogens-idUSTRE68T6FS20100930). Reuters. Retrieved 1 October 2010.
192. Collins, Jeffrey; Dearen, Jason (16 May 2010). "BP: Mile-long tube sucking oil away from Gulf well" (http://www.washingtontimes.com/news/2010/may/16/huge-underwater-oil-plumes-found-gulf-mexico/). *The Washington Times*. Associated Press. Retrieved 29 June 2010.
193. "Oil spill full of methane, adding new concerns" (http://www.nbcnews.com/id/37778190/ns/disaster_in_the_gulf/). MSNBC. 18 June 2010. Retrieved 20 June 2010.
194. "Oil spill's environmental costs" (http://www.torontosun.com/news/world/2010/06/05/14277081.html). *Toronto Sun*.
195. Ortmann, Alice C.; Anders, Jennifer; Shelton, Naomi; Gong, Limin; Moss, Anthony G.; Condon, Robert H. (July 2012). "Dispersed Oil Disrupts Microbial Pathways in Pelagic Food Webs" (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3409195). *PLOS ONE*. **7** (7): e42548. Bibcode:2012PLoSO...742548O (https://ui.adsabs.harvard.edu/abs/2012PLoSO...742548O). doi:10.1371/journal.pone.0042548 (https://doi.org/10.1371%2Fjournal.pone.0042548). PMC 3409195 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3409195). PMID 22860136 (https://www.ncbi.nlm.nih.gov/pubmed/22860136). e42548.
196. Mitra, Siddhartha; Kimmel, David G.; Snyder, Jessica; Scalise, Kimberly; McGlaughon, Benjamin D.; Roman, Michael R.; Jahn, Ginger L.; Pierson, James J.; Brandt, Stephen B.; Montoya, Joseph P.; Rosenbauer, Robert J.; Lorenson, Thomas D.; Wong, Florence L.; Campbell, Pamela L. (20 March 2012). "Oil from Deepwater Horizon disaster entered food chain in the Gulf of Mexico" (https://www.sciencedaily.com/releases/2012/03/120320142100.htm). *Geophysical Research Letters*. **39** (1): L01605. Bibcode:2012GeoRL..39.1605M (https://ui.adsabs.harvard.edu/abs/2012GeoRL..39.1605M). doi:10.1029/2011GL049505 (https://doi.org/10.1029%2F2011GL049505). Retrieved 1 June 2012.
197. Froomkin, Dan (29 July 2010). "Scientists Find Evidence That Oil And Dispersant Mix Is Making Its Way into The Foodchain" (http://www.huffingtonpost.com/2010/07/29/scientists-find-evidence_n_664298.html). *Huffington Post*. Retrieved 2 August 2010.

198. Beaumont, Peter (31 March 2012). "Gulf's dolphins pay heavy price for Deepwater oil spill" (https://www.theguardian.com/environment/2012/mar/31/dolphins-sick-deepwater-oil-spill?mobile-redirect=false). *The Guardian*. London.
199. "BP oil spill: The 'horribly mutated' creatures living in the Gulf" (https://news.yahoo.com/bp-oil-spill-horribly-mutated-creatures-living-gulf-180100880.html). Yahoo.
200. "Eyeless shrimp and mutant fish raise concerns over BP spill effects" (http://www.foxnews.com/scitech/2012/04/18/eyeless-shrimp-and-mutant-fish-raise-concerns-over-bp-spill-effects/). Fox News Channel. 7 April 2010. Retrieved 1 June 2012.
201. Dahr Jamail. "Gulf seafood deformities alarm scientists – Features" (http://www.aljazeera.com/indepth/features/2012/04/201241682318260912.html). Al Jazeera. Retrieved 1 June 2012.
202. Jamail, Dahr. "Gulf ecosystem in crisis after BP spill" (http://www.aljazeera.com/indepth/features/2013/10/gulf-ecosystem-crisis-after-bp-spill-201310206531354475 4.html). Al Jazeera.
203. Deepwater Horizon spill threatens more species than legally protected, study finds (https://www.sciencedaily.com/releases/2011/05/110511134221.htm)
204. Smith, Lewis (23 May 2011). "Deep sea fish named in world top ten new species" (https://web.archive.org/web/20110526113457/http://www.fish2fork.com/news-index/Deep-sea-fish-named-in-world-top-ten-new-species.aspx). *Fish2Fork*. Archived from the original (http://www.fish2fork.com/news-index/Deep-sea-fish-named-in-world-top-ten-new-species.aspx) on 26 May 2011. Retrieved 23 May 2011.
205. Gerken, James (26 March 2012). "Gulf Oil Spill: Coral Death 'Definitively' Linked To BP Spill" (http://www.huffingtonpost.com/2012/03/26/gulf-oil-spill-coral-death_n_1380712.html). *Huffington Post*. Retrieved 1 June 2012.
206. White, Helen K.; Hsing, Pen-Yuan; Cho, Walter; Shank, Timothy M.; Cordes, Erik E.; Quattrini, Andrea M.; Nelson, Robert K.; Camilli, Richard; Demopoulos, Amanda W. J.; German, Christopher R.; Brooks, James M.; Roberts, Harry H.; Shedd, William; Reddy, Christopher M.; Fisher, Charles R. (11 December 2012). "Impact of the Deepwater Horizon oil spill on a deep-water coral community in the Gulf of Mexico" (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3528508). *PNAS*. **109** (50): 20303–20308. Bibcode:2012PNAS..10920303W (https://ui.adsabs.harvard.edu/abs/2012PNAS..10920303W). doi:10.1073/pnas.1118029109 (https://doi.org/10.1073%2Fpnas.1118029109). PMC 3528508 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3528508). PMID 22454495 (https://www.ncbi.nlm.nih.gov/pubmed/22454495).
207. Association, Press (26 March 2012). "BP oil spill seriously harmed deep-sea corals, scientists warn" (https://www.theguardian.com/environment/2012/mar/26/bp-oil-spill-deepwater-horizon). *The Guardian*.
208. Gutman, Matt; Netter, Sarah (3 December 2010). "Submarine Dive Finds Oil, Dead Sea Life at Bottom of Gulf of Mexico" (http://abcnews.go.com/US/exclusive-submarine-dive-finds-oil-dead-sea-life/story?id=12305709). *ABS News*. Retrieved 26 February 2011.
209. "2010–2011 Cetacean Unusual Mortality Event in Northern Gulf of Mexico – Office of Protected Resources – NOAA Fisheries" (http://www.nmfs.noaa.gov/pr/health/mmume/cetacean_gulfofmexico2010.htm#map). Nmfs.noaa.gov. 1 November 2011. Retrieved 5 November 2011.
210. Conservation Letters: Whale and dolphin death toll during Deepwater disaster may have been greatly underestimated by Dr. Rob Williams, et al. – Offshore Oil Drilling (http://www.reefrelieffounders.com/drilling/2011/03/30/conservation-letters-whale-and-dolphin-death-toll-during-deepwater-disaster-may-have-been-greatly-underestimated-by-dr-rob-williams-et-al/). Reefrelieffounders.com (30 March 2011). Retrieved 7 April 2011.
211. Nelson, Karen (22 February 2011). "Spike Reported in Number of Stillborn Dolphins on Coast" (https://web.archive.org/web/20110501121807/http://www.sunherald.com/2011/02/21/2881674/spike-reported-in-number-of-stillborn.html). SunHerald.com. Archived from the original (http://www.sunherald.com/2011/02/21/2881674/spike-reported-in-number-of-stillborn.html) on 1 May 2011. Retrieved 3 April 2011.
212. "Half of bottlenose dolphins in Barataria Bay were seriously ill or dying in 2011, new study finds" (http://www.nola.com/environment/index.ssf/2013/12/half_of_bottlenose_dolphins_of.html). NOLA. December 2013.
213. Kaufman, Leslie (23 March 2012). "Gulf Dolphins Exposed to Oil Are Seriously Ill, Agency Says" (http://green.blogs.nytimes.com/2012/03/23/gulf-dolphins-exposed-to-oil-are-seriously-ill-agency-says/). *The New York Times*. Gulf of Mexico;Louisiana. Retrieved 1 June 2012.
214. "Restoring A Degraded Gulf of Mexico – National Wildlife Federation" (http://www.nwf.org/News-and-Magazines/Media-Center/Reports/Archive/2013/04-02-13-Restoring-A-Degraded-Gulf-of-Mexico.aspx). NWF.

215. "How You Can Help Wildlife Impacted by the BP Oil Spill – National Wildlife Federation" (https://www.nwf.org/What-We-Do/Protect-Habitat/Gulf-Restoration/Oil-Spill/Effects-on-Wildlife.aspx). NWF.
216. Gerken, James (2 April 2013). "Is The Gulf Still Sick?" (http://www.huffingtonpost.com/2013/04/02/gulf-of-mexico-dolphin-deaths-bp_n_3001408.html). *Huffington Post*.
217. "BP Oil Spill: Dolphins Plagued By Death, Disease Years After Rig Explosion" (http://www.huffingtonpost.ca/2014/02/12/bp-oil-spill-dolphins_n_4774754.html). *Huffington Post Canada*. 12 February 2014. Retrieved 17 February 2014.
218. Gander, Kashmira (17 February 2014). "Dolphins 'suffering miscarriage, lung disease, losing teeth after BP oil spill' researchers claim" (https://www.independent.co.uk/news/world/americas/dolphins-suffering-miscarriage-lung-disease-losing-teeth-after-bp-oil-spill-researchers-claim-9134045.html). *The Independent (UK)*. London. Retrieved 17 February 2014.
219. "Tar Balls from BP Oil Spill Wash Up on Gulf Beaches" (http://news.nationalgeographic.com/news/energy/2012/03/120322-gulf-oil-spill-tar-balls-wash-up-on-beaches/). *National Geographic*. 22 March 2012. Retrieved 1 June 2012.
220. "About 565,000 pounds of oiled material from Deepwater Horizon stirred up by Hurricane Isaac" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2012/10/about_565000_lbs_of_oiled_mate.html). NOLA.
221. "Tropical Storm Lee surge reveals tar mats on Fourchon Beach" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2011/09/tropical_storm_lee_surge_revea.html). NOLA.
222. "Discovery of 'tar mat' prompts Gulf closure" (https://web.archive.org/web/20130616003233/http://www.wdsu.com/weather/hurricanes/Discovery-of-tar-mat-prompts-Gulf-closure/-/12848220/16480956/-/aonomq/-/index.html). WDSU. Archived from the original (http://www.wdsu.com/weather/hurricanes/Discovery-of-tar-mat-prompts-Gulf-closure/-/12848220/16480956/-/aonomq/-/index.html) on 16 June 2013.
223. Dermansky, Julie (20 April 2013). "Three Years After the BP Spill, Tar Balls and Oil Sheen Blight Gulf Coast" (https://www.theatlantic.com/national/archive/2013/04/three-years-after-the-bp-spill-tar-balls-and-oil-sheen-blight-gulf-coast/275139/). *The Atlantic*. Retrieved 29 April 2013.
224. Science. "Mystery 'oil sheen' grows near site of BP Gulf disaster, says researcher" (http://science.nbcnews.com/_news/2013/01/31/16792048-mystery-oil-sheen-grows-near-site-of-bp-gulf-disaster-says-researcher). NBC News.
225. Gulf of Mexico, since the BP Oil Spill of 2010 April (http://www.onwingsofcare.org/protection-a-preservation/gulf-of-mexico-oil-spill-2010.html) Archived (https://web.archive.org/web/20140308045440/http://www.onwingsofcare.org/protection-a-preservation/gulf-of-mexico-oil-spill-2010.html) 8 March 2014 at the Wayback Machine
226. "AP: BP oil not degrading on Gulf floor, study says" (https://news.yahoo.com/ap-bp-oil-not-degrading-gulf-floor-study-171803770.html). Retrieved 1 April 2014.
227. "Study: "Dirty bathtub" buried oil from BP spill" (http://www.cbsnews.com/8301-205_162-57566171/study-dirty-bathtub-buried-oil-from-bp-spill/). CBS News.
228. "Tuna study reveals how pollution causes heart problems" (http://www.theaustralian.com.au/news/health-science/tuna-study-reveals-how-pollution-causes-heart-problems/story-e6frg8y6-1226826877064). *The Australian*. 14 February 2014. Retrieved 18 February 2014.
229. "Dispersant Used to Clean Deepwater Horizon Spill More Toxic to Corals Than the Oil" (http://www.newswise.com/articles/view/632428/?sc=swtr&xy=5028049). NewsWise.
230. Ryan Grenoble (20 May 2015). Spike In Dolphin Deaths Directly Tied To Deepwater Horizon Oil Spill, Researchers Say (http://www.huffingtonpost.com/2015/05/20/deepwater-horizon-dolphin-deaths_n_7346250.html). *The Huffington Post.* Retrieved 20 May 2015.
231. Nicholas St. Fleur (20 May 2015). Study Links Dolphin Deaths to Deepwater Horizon Oil Spill (https://www.nytimes.com/2015/05/21/science/dolphin-deaths-in-gulf-of-mexico-linked-to-deepwater-horizon-oil-spill.html). *The New York Times*. Retrieved 21 May 2015.
232. Staletovich, Jenny (13 April 2016). "Hundreds of baby dolphin deaths tied to BP's Gulf oil spill" (http://www.myrtlebeachonline.com/news/nation-world/national/article71524207.html). *The Sun News*. The Miami Herald. Retrieved 13 April 2016.
233. "Louisiana DHH Releases Oil Spill-Related Exposure Information" (http://new.dhh.louisiana.gov/index.cfm/newsroom/detail/124). Louisiana Department of Health & Hospitals(DHH). 14 June 2010. Retrieved 16 June 2010.

234. Leader, Jessica (23 April 2013). "Is This Oil Spill Solution Worse Than The Problem?" (http://www.huffingtonpost.com/2013/04/23/corexit-oil-spill-gulf_n_3134963.html). *Huffington Post*.
235. Schmidt, Charles W. (2011). "OCCUPATIONAL HEALTH. Study to Examine Health Effects in 'Deepwater Horizon' Oil Spill Cleanup workers" (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3094437). *Environmental Health Perspectives*. **119** (5): A204. doi:10.1289/ehp.119-a204 (https://doi.org/10.1289%2Fehp.119-a204). ISSN 0091-6765 (https://www.worldcat.org/issn/0091-6765). JSTOR 41203284 (https://www.jstor.org/stable/41203284). PMC 3094437 (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3094437). PMID 21531657 (https://www.ncbi.nlm.nih.gov/pubmed/21531657).
236. Jamail, Dahr (29 October 2010). "BP dispersants 'causing sickness' " (http://www.aljazeera.com/indepth/features/2010/10/20101027132136220370.html). Al Jazeera. Retrieved 21 May 2013.
237. Blumenfeld, Erika (17 May 2011). "Exposing the human side of BP's oil spill" (http://www.aljazeera.com/indepth/interactive/2011/05/201151214192646829 2.html). Al Jazeera. Retrieved 3 March 2013.
238. Jamail, Dahr (9 March 2011). "Gulf spill sickness wrecking lives" (http://www.aljazeera.com/indepth/features/2011/03/201138152955897442.html). Al Jazeera. Retrieved 27 March 2013.
239. "BP Oil Spill Cleanup Workers Getting Sick, Exxon Valdez Survivor Warns of Long-Term Health Effects" (http://www.democracynow.org/2010/7/7/bp_oil_spill_cleanup_workers_getting). *Democracy Now!*. 7 July 2010. Retrieved 1 June 2013.
240. Rose Aguilar, "Experts: Health Hazards in Gulf Warrant Evacuations (http://archive.truthout.org/toxic-dispersants-causing-widespread-illness61604) Archived (https://web.archive.org/web/20121115061021/http://archive.truthout.org/toxic-dispersants-causing-widespread-illness61604) 15 November 2012 at the Wayback Machine", *Truthout*, 22 July 2010.
241. "Health of Exxon Valdez cleanup workers was never studied", *Herald-Review* (McClatchy), 4 July 2010.
242. Health Hazard Evaluation of Deepwater Horizon Response Workers (https://www.cdc.gov/niosh/hhe/reports/pdfs/2010-0115-0129-3138.pdf) National Institute for Occupation Safety and Health, August 2011.
243. Vanhemert, Kyle. "BP Reportedly Preventing Clean-Up Workers From Wearing Respirators" (https://gizmodo.com/5582758/bp-reportedly-preventing-clean-up-workers-from-wearing-respirators). *Gizmodo*. Retrieved 5 March 2014.
244. Cohen, Elizabeth (31 May 2010). "Fisherman files restraining order against BP" (http://edition.cnn.com/2010/HEALTH/05/31/oil.spill.order/). *CNN*. Retrieved 5 March 2014.
245. Elana, Schor (9 July 2010). "Petition Urges Obama Admin to Protect Gulf Spill Cleanup Workers" (https://www.nytimes.com/gwire/2010/07/09/09greenwire-petition-urges-obama-admin-to-protect-gulf-spi-60345.html). *NYT*. Retrieved 5 March 2014.
246. Trotman, Melanie. "OSHA Says Cleanup Workers Don't Need Respirators" (https://www.wsj.com/news/articles/SB10001424052748704764404575286180491707288). *Wall Street Journal*. Retrieved 5 March 2014.
247. Chavkin, Sasha (13 July 2010). "Coast Guard Photos Show Spill Workers Without Protective Gear" (https://www.propublica.org/article/coast-guard-photos-show-spill-workers-without-protective-gear). *ProPublica*. Retrieved 5 March 2014.
248. Hertgaard, Mark (22 April 2013). "What BP Doesn't Want You to Know About the 2010 Gulf Spill" (http://www.newsweek.com/what-bp-doesnt-want-you-know-about-2010-gulf-spill-63015). *Newsweek*. Retrieved 5 March 2014.
249. "Investigation: Two Years After the BP Spill, A Hidden Health Crisis Festers" (http://www.thenation.com/article/167461/investigation-two-years-after-bp-spill-hidden-health-crisis-festers). *The Nation*. 18 April 2012. Retrieved 1 June 2012.
250. International, Living on Earth / World Media Foundation / Public Radio. "Living on Earth: Research Update on the Impact of BP Oil Spill" (http://www.loe.org/shows/segments.html?programID=13-P13-00004&segmentID=6). LCE.
251. "Gulf of Mexico Oil Spill & Ecosystem Science Conference (21–23 January 2013, New Orleans, LA)" (https://web.archive.org/web/20170223044523/http://www.imber.info/Meetings/IMBER-Relevant-Meetings/meetings-2013/January-2013/Gulf-of-Mexico-Oil-Spill-Ecosystem-Science-Conference-21-23-January-2013-New-Orleans-LA). Archived from the original (http://www.imber.info/Meetings/IMBER-Relevant-Meetings/meetings-2013/January-2013/Gulf-of-Mexico-Oil-Spill-Ecosystem-Science-Conference-21-23-January-2013-New-Orleans-LA) on 23 February 2017. Retrieved 22 February 2017.

252. "BP Deepwater Horizon spill: Scientists say seafood safe, but health effects being measured" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2013/01/bp_deepwater_horizon_spill_sci.html). NOLA.
253. Conferences on this theme occurred at least in 2016 and 2017. "2016 Gulf of Mexico Oil Spill and Ecosystem Science Conference" (http://www.cvent.com/events/2016-oil-spill-and-ecosystem-science-conference/event-summary-52ad0b225ba54cf0960090070e6f8073.aspx). CVENT.com. "2017 Oil Spill and Ecosystem Science Conference" (http://www.cvent.com/events/2017-oil-spill-and-ecosystem-science-conference/event-summary-b167156e2ddd40e5a4d371b459058545.aspx?lang=en). CVENT.com.
254. Lauren C. Peres, Edward Trapido, Ariane L. Rung, Daniel J. Harrington, Evrim Oral, Zhide Fang, Elizabeth Fontham, and Edward S. Peters. Deepwater Horizon Oil Spill and Physical Health among Adult Women in Southern Louisiana: The Women and Their Children's Health (WaTCH) Study. (http://ehp.niehs.nih.gov/15-10348/The) Environ Health Perspect;DOI:10.1289/ehp.1510348. advance publication, retrieved 5 February 2016
255. Pepitone, Julianne (10 June 2010). "BP shares recover after reassurance" (http://money.cnn.com/2010/06/10/news/companies/BP_stock/). *CNNMoney*.
256. "The Impact of the BP Oil Spill on Visitor Spending in Louisiana: Revised estimates based on data through 2010 Q4, Prepared for the Louisiana Office of Tourism" (http://docplayer.net/9686378-The-impact-of-the-bp-oil-spill-on-visitor-spending-in-louisiana.html). Tourism Economics. Retrieved 4 November 2016.
257. "Summary of Information concerning the Ecological and Economic Impacts of the BP Deepwater Horizon Oil Spill Disaster" (https://www.nrdc.org/file/4218/download?token=M2Bxrq5m) (PDF). Natural Resources Defense Council. Retrieved 4 November 2016.
258. Sumaila, U.R.; et al. (March 2012). "Impact of the Deepwater Horizon well blowout on the economics of U.S. Gulf fisheries". *Canadian Journal of Fisheries and Aquatic Sciences*. **69** (3): 499–510. doi:10.1139/f2011-171 (https://doi.org/10.1139%2Ff2011-171).
259. Breen, Tom (5 July 2010). "BP costs for oil spill response pass $3 billion" (http://www.washingtontimes.com/news/2010/jul/5/bp-costs-oil-spill-response-pass-3-billion/). Associated Press. Retrieved 5 July 2010.
260. "Smaller BP's profits down as oil spill trial looms" (https://www.reuters.com/article/2013/02/05/us-bp-results-urgent-idUSBRE91409C20130205?irpc=932). Reuters. 5 February 2013.
261. Weber, Harry (19 December 2010). "Time to scrap BP brand? Gas-station owners divided" (http://www.nbcnews.com/id/38493212/ns/business-us_business/). Associated Press. Retrieved 30 July 2010.
262. Sasser, Bill (24 May 2010). "Despite BP oil spill, Louisiana still loves Big Oil" (http://www.csmonitor.com/USA/2010/0524/Despite-BP-oil-spill-Louisiana-still-loves-Big-Oil). *The Christian Science Monitor*.
263. "FB10-055: BP Oil Spill: NOAA Modifies Commercial and Recreational Fishing Closure in the Oil-Affected Portions of the Gulf of Mexico" (https://web.archive.org/web/20100705094139/http://sero.nmfs.noaa.gov/bulletins/pdfs/2010/FB10-055_BP_Oil_Spill_Closure_062110.pdf) (PDF). NOAA, National Marine Fisheries Service, Southeast Regional Office, Southeast Fishery Bulletin. 21 June 2010. Archived from the original (http://sero.nmfs.noaa.gov/bulletins/pdfs/2010/FB10-055_BP_Oil_Spill_Closure_062110.pdf) (PDF) on 5 July 2010. Retrieved 22 June 2010. Italic or bold markup not allowed in: |publisher= (help)
264. "Deepwater Horizon/BP Oil Spill: Size and Percent Coverage of Fishing Area Closures Due to BP Oil Spill" (https://web.archive.org/web/20100618133909/http://sero.nmfs.noaa.gov/ClosureSizeandPercentCoverage.htm). NOAA, National Marine Fisheries Service, Southeast Regional Office. 21 June 2010. Archived from the original (http://sero.nmfs.noaa.gov/ClosureSizeandPercentCoverage.htm) on 18 June 2010. Retrieved 22 June 2010.
265. "Bryan Walsh. (1 May 2010). Gulf of Mexico Oil Spill: No End in Sight for Eco-Disaster. *Time*. Retrieved 1 May 2010" (http://www.time.com/time/health/article/0,8599,1986323,00.html). *Yahoo! News*. 1 May 2010. Retrieved 3 May 2010.
266. Proctor, Carleton (1 August 2010). "Big price tag for recovery of Gulf Coast" (https://web.archive.org/web/20110427044922/http://www.nivac.info/?p=824). *Pensacola News Journal*. Archived from the original (http://www.nivac.info/?p=824) on 27 April 2011. Retrieved 1 August 2010.
267. "Potential Impact of the Gulf Oil Spill on Tourism" (https://web.archive.org/web/20120507030043/http://www.ustravel.org/sites/default/files/page/2009/11/Gulf_Oil_Spill_Analysis_Oxford_Economics_710.pdf) (PDF). *Oxford Economics*. 21 July 2010. Archived from the original (http://www.ustravel.org/sites/default/files/page/2009/11/Gulf_Oil_Spill_Analysis_Oxford_Economics_710.pdf) (PDF) on 7 May 2012. Retrieved 1 August 2010.

268. Johnston, Nicholas; Nichols, Hans (1 May 2010). "New Offshore Oil Drilling Must Have Safeguards, Obama Says" (https://www.bloomberg.com/news/2010-04-30/new-offshore-oil-drilling-must-have-safeguards-obama-says.html). Bloomberg. Retrieved 1 May 2010.
269. CBS/AP (29 April 2010). "Oil Spill Reaches Mississippi River" (http://www.cbsnews.com/stories/2010/04/29/national/main6444311.shtml). CBS News. Retrieved 29 April 2010.
270. "Judge denies stay in moratorium ruling" (http://www.upstreamonline.com/live/article218708.ece). *Upstream Online*. NHST Media Group. 24 June 2010. Retrieved 30 June 2010.
271. Durio, Katie. "Back to Work Coalition Established to Address Federal Permitting Issues" (https://web.archive.org/web/20110929001142/http://www.katc.com/news/back-to-work-coalition-established-to-address-federal-permitting-issues/). KATC.com. Archived from the original (http://www.katc.com/news/back-to-work-coalition-established-to-address-federal-permitting-issues/#_) on 29 September 2011.
272. VanderKlippe, Nathan (30 April 2010). "Arctic drilling faces tougher scrutiny" (https://www.theglobeandmail.com/report-on-business/industry-news/energy-and-resources/arctic-drilling-faces-tougher-scrutiny/article1551603/). *The Globe and Mail*. Canada. pp. B1, B8. Retrieved 2 May 2010.
273. Wood, Daniel B. (4 May 2010). "Citing BP oil spill, Schwarzenegger drops offshore drilling plan" (http://www.csmonitor.com/USA/Politics/2010/0504/Citing-BP-oil-spill-Schwarzenegger-drops-offshore-drilling-plan). *The Christian Science Monitor*. Retrieved 6 May 2010.
274. Mirchandani, Rajesh (3 May 2010). "California's Schwarzenegger turns against oil drilling" (http://news.bbc.co.uk/2/hi/americas/8658825.stm). *BBC News*. Retrieved 6 May 2010.
275. Associated Press (8 July 2010). "Fla. governor calls special oil drilling session" (https://www.webcitation.org/5rMxfdCbN). *The Miami Herald*. Archived from the original (http://www.miamiherald.com/2010/07/08/1721371/fla-governor-calls-special-oil.html) on 20 July 2010. Retrieved 8 July 2010.
276. Bosquet, Steve (20 July 2010). "Party-line vote ends Florida's oil drilling ban special session" (https://web.archive.org/web/20100722131427/http://www.miamiherald.com/2010/07/20/1738869/party-line-vote-ends-floridas.html). *The Miami Herald*. Archived from the original (http://www.miamiherald.com/2010/07/20/1738869/party-line-vote-ends-floridas.html) on 22 July 2010. Retrieved 20 July 2010.
277. Robertson, Campbell; Schwartz, John (27 April 2014). "BP shifts its position on Gulf payouts". *The Charlotte Observer*. The New York Times. p. 4A.
278. Office of the Press Secretary (30 April 2010). "Statement by the President on the Economy and the Oil Spill in the Gulf of Mexico" (https://web.archive.org/web/20100503121153/http://www.whitehouse.gov/the-press-office/statement-president-economy-and-oil-spill-gulf-mexico) (Press release). The White House. Archived from the original (https://www.whitehouse.gov/the-press-office/statement-president-economy-and-oil-spill-gulf-mexico) on 3 May 2010. Retrieved 5 May 2010.
279. "Full text of President Obama's BP Oil Spill speech" (https://www.reuters.com/article/2010/06/16/us-oil-spill-obama-text-idUSTRE65F02C20100616). Reuters. 15 June 2010. Retrieved 16 June 2010.
280. "Rand Paul: Obama BP criticism 'un-American'" (http://www.nbcnews.com/id/37273085/ns/politics-decision_2010/t/rand-paul-obama-bp-criticism-un-american/). MSNBC. Associated Press. 21 May 2010. Retrieved 19 November 2011.
281. Armitstead, Louise; Butterworth, Myra (9 June 2010). "Barack Obama's attacks on BP hurting British pensioners" (https://www.telegraph.co.uk/news/worldnews/barackobama/7815713/Barack-Obamas-attacks-on-BP-hurting-British-pensioners.html). *The Daily Telegraph*. London. Retrieved 19 November 2011.
282. Klaus, Krista (31 May 2010). "Memorial Day protest of BP held at Clearwater station" (http://www2.tbo.com/news/oil-spill/2010/may/31/memorial-day-protest-bp-held-clearwater-station-ar-38905/). WFLA-TV, News Channel 8, Tampa. Retrieved 2 June 2010.
283. "Protest held near BP gas station in Bloomington" (https://web.archive.org/web/20100604034354/http://wcco.com/consumer/bp.protest.bloomington.2.1725132.html). WCCO-TV, Minneapolis. 31 May 2010. Archived from the original (http://wcco.com/consumer/bp.protest.bloomington.2.1725132.html) on 4 June 2010. Retrieved 3 July 2010.

284. "More than a thousand people attend rally against BP and the government" (https://web.archive.org/web/20100706120409/http://www.neworleans.com/news/local-news/404880.html). WGNO TV, New Orleans. 30 May 2010. Archived from the original (http://www.neworleans.com/news/local-news/404880.html) on 6 July 2010. Retrieved 3 July 2010.
285. Weber, Harry (29 June 2010). "APNewsBreak: Trade group says BP to give cash to gas stations due to lost sales from boycotts" (https://www.foxnews.com/us/apnewsbreak-trade-group-says-bp-to-give-cash-to-gas-stations-due-to-lost-sales-from-boycotts). Fox News. Associated Press. Retrieved 30 August 2019.
286. Geman, B. "Oil spill commission, lobbying group at odds over industry's credibility" (http://thehill.com/blogs/e2-wire/e2-wire/138129-oil-spill-commission-lobbying-group-at-odds-over-industrys-credibility-). *The Hill*. Retrieved 13 February 2011.
287. Palomo, J. "API response to commission report: "We've made progress to improve safety"" (http://www.api.org/news-and-media/news/newsitems/2011/jan-2011/api-response-to-commission-report.aspx) (Press release). American Petroleum Institute. Retrieved 13 February 2011.
288. Fowler, Tom; Dlouhy, Jennifer (17 March 2011). "Oil and gas industry creates offshore safety institute" (http://www.chron.com/business/energy/article/Oil-and-gas-industry-creates-offshore-safety-1690079.php). *The Houston Chronicle*. Retrieved 11 April 2011.
289. Teather, David (14 July 2010). "British companies' reputation in the US is under threat, warns Washington overseas investment group" (https://www.theguardian.com/business/2010/jul/14/british-companies-reputation-threat-us). *The Guardian*. London. Retrieved 16 July 2010.
290. Mason, Rowena (10 July 2010). "UK firms suffer after BP oil spill" (https://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/7883303/UK-firms-suffer-after-BP-oil-spill.html). *The Daily Telegraph*. London. Retrieved 19 July 2010.
291. "Executive Order 13547 --Stewardship of the Ocean, Our Coasts, and the Great Lakes" (https://obamawhitehouse.archives.gov/the-press-office/executive-order-stewardship-ocean-our-coasts-and-great-lakes). The White House Office of the Press Secretary. 19 July 2010. Retrieved 18 July 2018.
292. David Abel (22 June 2018). "Trump rescinds Obama-era ocean policy" (https://bostonglobe.com/metro/2018/06/21/trump-rescinds-obama-ocean-policy/8CLXSSGh9ZDu16k9MWkE5J/story.html). *Boston Globe*. Retrieved 18 July 2018.
293. Oliver Milman (28 June 2018). "Deepwater Horizon disaster altered building blocks of ocean life" (https://theguardian.com/environment/2018/jun/28/bp-deepwater-horizon-oil-spill-report). *The Guardian*. Retrieved 18 July 2018.
294. Webb, Tim (13 May 2010). "BP Boss Admits Job on the Line over Gulf oil spill" (https://www.theguardian.com/business/2010/may/13/bp-boss-admits-mistakes-gulf-oil-spill). *The Guardian*. London. Retrieved 5 June 2010.
295. Mouawad, Jad; Krauss, Clifford (3 June 2010). "Another Torrent BP Works to Stem: Its C.E.O." (https://www.nytimes.com/2010/06/04/us/04image.html) *The New York Times*. Retrieved 5 June 2010.
296. *BP downplays government claim on oil plumes* (http://www.nbcnews.com/id/37588890/ns/disaster_in_the_gulf/) (Flash video). MSNBC. 9 June 2010. Event occurs at 3:42. Retrieved 10 June 2010.
297. Emily Friedman (5 June 2010). "BP Buys 'Oil' Search Terms to Redirect Users to Official Company Website" (http://abcnews.go.com/Technology/Broadcast/bp-buys-search-engine-phrases-redirecting-users/story?id=10835618). ABC News. Retrieved 6 May 2010.
298. Morgan, Gareth (7 June 2010). "BP buys 'oil spill' sponsored links for search engines" (https://www.newscientist.com/blogs/shortsharpscience/2010/06/bp-turns-to-google-ads-to-save.html). *New Scientist*. Retrieved 13 June 2010.
299. Macalister, Terry; Wray, Richard (26 July 2010). "Tony Hayward to quit BP" (https://www.theguardian.com/business/2010/jul/26/tony-hayward-to-quit-bp). *The Guardian*. London. Retrieved 18 September 2010.
300. Macalister, Terry (25 July 2010). "Bob Dudley: Profile of the new BP chief executive" (https://www.theguardian.com/business/2010/jul/25/bob-dudley-profile-bp-ceo). *The Guardian*. London. Retrieved 18 September 2010.
301. Wragg, Tom (21 March 2013). "Why we disrupted Tony Hayward's award at the University of Birmingham" (https://web.archive.org/web/20130329001725/http://brightgreenscotland.org/index.php/2013/03/why-we-disrupted-tony-haywood-at-the-university-of-birmingham/). Bright Green. Archived from the original (http://brightgreenscotland.org/index.php/2013/03/why-we-disrupted-tony-haywood-at-the-university-of-birmingham/) on 29 March 2013. Retrieved 21 March 2013.

302. Cheyne, James (12 July 2013). "University defends degree for Deepwater Horizon boss Tony Hayward" (http://news.stv.tv/scotland/232676-robert-gordon-university-gives-degree-to-former-bp-boss-tony-hayward/). STV.
303. "Deepwater Horizon Oil Spill: International Offers of Assistance" (https://2009-2017.state.gov/r/pa/prs/ps/2010/06/143771.htm) (Press release). United States Department of State. 29 June 2010. Retrieved 19 January 2013.
304. Rogin, Josh (6 May 2010). "U.S. not accepting foreign help on oil spill" (http://thecable.foreignpolicy.com/posts/2010/05/06/us_not_accepting_foreign_help_on_oil_spill). *Foreign Policy*. Retrieved 12 June 2010.
305. Jonsson, Patrik (19 June 2010). "Jones Act: Maritime politics strain Gulf oil spill cleanup" (http://www.csmonitor.com/USA/2010/0619/Jones-Act-Maritime-politics-strain-Gulf-oil-spill-cleanup). Retrieved 27 June 2010.
306. "Salazar Launches Safety and Environmental Protection Reforms to Toughen Oversight of Offshore Oil and Gas Operations" (http://www.doi.gov/news/pressreleases/Salazar-Launches-Safety-and-Environmental-Protection-Reforms-to-Toughen-Oversight-of-Offshore-Oil-and-Gas-Operations.cfm) (Press release). US department of Interior. 11 May 2010. Retrieved 13 May 2010.
307. "Weekly Address: President Obama Establishes Bipartisan National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling" (https://web.archive.org/web/20100530120926/http://www.whitehouse.gov/the-press-office/weekly-address-president-obama-establishes-bipartisan-national-commission-bp-deepwa) (Press release). White House. 22 May 2010. Archived from the original (https://www.whitehouse.gov/the-press-office/weekly-address-president-obama-establishes-bipartisan-national-commission-bp-deepwa) on 30 May 2010. Retrieved 1 June 2010.
308. "Attorney General Eric Holder on Gulf Oil Spill" (https://www.justice.gov/ag/speeches/2010/ag-speech-100601.html) (Press release). United States Department of Justice. 1 June 2010. Retrieved 3 February 2013.
309. "Anadarko and Mitsui executives set to testify" (http://www.upstreamonline.com/live/article221198.ece). *Upstream Online*. NHST Media Group. 9 July 2010. Retrieved 10 July 2010.
310. "Deepwater Horizon blowout preventer 'faulty' – Congress" (http://news.bbc.co.uk/2/hi/americas/8679090.stm). *BBC News*. 13 May 2010. Retrieved 21 June 2010.
311. Weber, Harry R.; Kunzelman, Michael; Cappiello, Dina (8 September 2010). "All eyes on BP report on Gulf" (https://web.archive.org/web/20110723113948/http://www.oilspillnews.net/bp-oil-spill-news/all-eyes-on-bp-report-on-gulf-oil-spill-disaster-%C2%AB-artesia-news/). *Oil Spill News/Artesia News*. Associated Press. Archived from the original (http://www.oilspillnews.net/bp-oil-spill-news/all-eyes-on-bp-report-on-gulf-oil-spill-disaster-%C2%AB-artesia-news/) on 23 July 2011. Retrieved 20 May 2011.
312. Daniel Bates (30 August 2010). "BP accepts blame for Gulf of Mexico spill after leaked memo reveals engineer misread pressure reading" (http://www.dailymail.co.uk/news/article-1307439/BP-accepts-blame-Gulf-Mexico-spill-leaked-memo-reveals-engineer-misread-pressure-reading.html). *Daily Mail*. London. Retrieved 5 September 2010.
313. Mark Clayton for the Christian Science Monitor. 8 September 2010 Transocean, Halliburton blast BP report on cause of blowout, oil spill (http://www.csmonitor.com/USA/2010/0908/Transocean-Halliburton-blast-BP-report-on-cause-of-blowout-oil-spill)
314. "Gulf oil spill: President's panel says firms complacent" (https://www.bbc.co.uk/news/world-us-canada-11720907). BBC. 9 November 2010. Retrieved 12 November 2010.
315. "Obama oil spill commission's final report blames disaster on cost-cutting by BP and partners" (https://www.telegraph.co.uk/finance/newsbysector/energy/oilandgas/8242557/Obama-oil-spill-commissions-final-report-blames-disaster-on-cost-cutting-by-BP-and-partners.html). *The Telegraph*. London. Reuters. 5 January 2011. Retrieved 6 January 2011.
316. National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling (January 2011). "Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling" (https://web.archive.org/web/20110315193621/https://s3.amazonaws.com/pdf_final/DEEPWATER_ReporttothePresident_FINAL.pdf) (PDF). US Government. Archived from the original (https://s3.amazonaws.com/pdf_final/DEEPWATER_ReporttothePresident_FINAL.pdf) (PDF) on 15 March 2011. Retrieved 12 January 2011.
317. Rascoe, Ayesha (5 January 2011). "BP and firms made risky decisions before spill: report" (https://www.reuters.com/article/2011/01/05/us-oilspill-bp-causes-idUSTRE7045SX20110105). Reuters. Retrieved 19 January 2013.
318. Broder, John M. (5 January 2011). "Blunders Abounded Before Gulf Spill, Panel Says" (https://www.nytimes.com/2011/01/06/science/earth/06spill.html). *The New York Times*. Retrieved 6 January 2011.

319. Mufson, Steven (5 January 2011). "BP, Transocean, Halliburton blamed by presidential Gulf oil spill commission" (https://www.washingtonpost.com/wp-dyn/content/article/2011/01/05/AR2011010504631.html). *The Washington Post*. Retrieved 6 January 2011.
320. Cappiello, Dina; Weber, Harry R. (5 January 2011). "Panel: Without changes in oil industry and government, BP-like spill could happen again" (https://web.archive.org/web/20110920151128/http://www.chicagotribune.com/sns-bc-us-gulfoilspill%2C0%2C7248032.story). *Chicago Tribune*. Archived from the original (http://www.chicagotribune.com/sns-bc-us-gulfoilspill,0,7248032.story) on 20 September 2011. Retrieved 26 February 2011.
321. "DNV report on Deepwater Horizon BOP concluded" (https://archive.today/20130121143502/http://www.dnv.com/press_area/press_releases/2011/dnvreportondeepwaterhorizonbopconcluded.asp) (Press release). 23 March 2011. Archived from the original (http://www.dnv.com/press_area/press_releases/2011/dnvreportondeepwaterhorizonbopconcluded.asp) on 21 January 2013. Retrieved 3 February 2013.
322. Weber, Dina Cappiello and Harry R. (14 September 2011). "Gulf oil spill report: BP ultimately responsible in Gulf spill" (http://www.csmonitor.com/USA/Latest-News-Wires/2011/0914/Gulf-oil-spill-report-BP-ultimately-responsible-in-Gulf-spill). *Christian Science Monitor*.
323. McDonell, Colin (March 2012). "Comment. The Gulf Coast Claims Facility and the Deepwater Horizon Litigation: Judicial Regulation of Private Compensation Schemes" (http://www.stanfordlawreview.org/sites/default/files/McDonell-64-Stan-L-Rev-765.pdf) (PDF). *Stanford Law Review*. **64** (3): 765–795. ISSN 1939-8581 (https://www.worldcat.org/issn/1939-8581). Retrieved 22 January 2013.
324. Independent Evaluation of the Gulf Coast Claims Facility. Executive Summary (http://media.nola.com/2010_gulf_oil_spill/other/BDO%20Executive%20Summary.pdf) (PDF) (Report). BDO Consulting. 19 April 2012. Retrieved 22 January 2013.
325. "Gulf residents to get extra $64M for 2010 oil spill claims" (http://usatoday30.usatoday.com/money/economy/story/2012-04-19/gulf-oil-spill-claims/54422074/1). *USA Today*. 19 April 2012. Retrieved 1 June 2012.
326. Kunzelman, Michael (25 April 2012). "Judge hears details of Gulf oil spill settlement" (http://www.businessweek.com/ap/2012-04/D9UC9G982.htm). *Bloomberg Businessweek*. Associated Press. Retrieved 22 January 2013.
327. Kunzelman, Michael (10 January 2013). "BP Class-Action Settlement Exceeds $1 Billion in Payments Over Gulf Oil Spill" (http://www.huffingtonpost.com/2013/01/10/bp-class-action-settlements-gulf-oil-spill_n_2445543.html). *Huffington Post*. Associated Press. Retrieved 22 January 2013.
328. "Mississippi AG Sues Kenneth Feinberg" (https://web.archive.org/web/20110717235516/http://www.wkrg.com/gulf_oil_spill/article/mississippi-ag-sues-kenneth-feinberg/1208163/Jul-12-2011_3-21-pm/). WKRG. Archived from the original (http://www.wkrg.com/gulf_oil_spill/article/mississippi-ag-sues-kenneth-feinberg/1208163/Jul-12-2011_3-21-pm/) on 17 July 2011. Retrieved 5 November 2011.
329. [1] (http://www.miamiherald.com/2011/10/21/2465881/following-complaints-from-gulf.html)
330. Stephen Teague (31 July 2013). "Shirking Responsibility in the Gulf" (https://www.nytimes.com/2013/07/31/opinion/shirking-responsibility-in-the-gulf.html). *The New York Times*. Biloxi, Miss.
331. Leader, Jessica (19 July 2013). "Judge Rules Against BP Over Settlement Payout Request" (http://www.huffingtonpost.com/2013/07/19/bp-oil-spill-payments_n_3623940.html). *Huffington Post*.
332. Pagnamenta, Robin (26 May 2010). "Lloyd's syndicates launch legal action over BP insurance claim" (http://business.timesonline.co.uk/tol/business/industry_sectors/banking_and_finance/article7136623.ece). *The Times*. London. Retrieved 26 May 2010.
333. "BP, Transocean Lawsuits Surge as Oil Spill Spreads in Gulf" (https://www.bloomberg.com/news/2010-04-30/bp-transocean-face-at-least-23-lawsuits-over-gulf-rig-blast-crude-spill.html). Bloomberg. 1 May 2010. Retrieved 1 May 2010.
334. Leo King (21 April 2011). "BP £24bn lawsuits claim contractors failed to use modelling software properly" (http://www.computerworlduk.com/news/it-business/3275978/bp-24bn-lawsuits-claim-contractors-failed-to-use-modelling-software-properly/). Computerworld UK. Retrieved 26 April 2010.
335. Fahey, Jonathan; Kahn, Chris (3 March 2012). "BP begins to put spill behind it with settlement" (http://www.boston.com/news/nation/articles/2012/03/03/bp_begins_to_put_spill_behind_it_with_settlement/). *Boston.com*. The Associated Press. Retrieved 18 January 2014.

336. Schwartz, John (3 March 2012). "Accord Reached Settling Lawsuit Over BP Oil Spill" (https://www.nytimes.com/2012/03/03/us/accord-reached-settling-lawsuit-over-bp-oil-spill.html). *The New York Times*. Retrieved 20 January 2013.
337. "US points to 'gross negligence' by BP" (http://www.aljazeera.com/news/americas/2012/09/2012959561858341.html). Al Jazeera. 5 September 2012. Retrieved 20 January 2013.
338. Thompson, Richard (11 January 2013). "Federal judge approves BP Gulf oil spill medical settlement" (http://www.nola.com/business/index.ssf/2013/01/federal_judge_approves_bp_gulf.html). *The Times-Picayune*. Retrieved 14 February 2013.
339. "BP, plaintiffs reach billion dollar deal in Gulf oil spill" (http://edition.cnn.com/2012/03/02/business/bp-oil-spill-trial-agreement/) CNN, 3 March 2012
340. "BP appeal to stop 'fictitious' U.S. oil spill claims fails" (https://finance.yahoo.com/news/u-appeals-court-affirms-bp-033211520.html). *Yahoo Finance*. Reuters. 11 January 2014. Retrieved 18 January 2014.
341. "DOJ accuses BP of 'gross negligence' in Gulf oil spill" (http://money.cnn.com/2012/09/05/news/companies/bp-oil-spill/index.html). CNN. 5 September 2012.
342. "Sorry – this page has been removed" (https://www.theguardian.com/business/2012/sep/05/deepwater-horizon-us-bp-oil-spill) – via The Guardian.
343. "UNITED STATES DISTRICT COURT EASTERN DISTRICT OF LOUISIANA IN RE: OIL SPILL BY THE OIL RIG : MDL NO. 2179 "DEEPWATER HORIZON" IN THE GULF : OF MEXICO, ON APRIL 20, 2010" (http://www.stuarthsmith.com/wp-content/uploads/2012/09/7229-2.pdf) (PDF).
344. Rampton, Roberta; Gardner, Timothy (28 November 2012). "U.S. bans BP from new government contracts after oil spill deal" (http://articles.chicagotribune.com/2012-11-28/business/sns-rt-us-bp-contractsbre8ar0m1-20121128_1_bp-plc-deepwater-horizon-oil-spill). *Chicago Tribune*. Reuters. Retrieved 1 December 2012.
345. Hargreaves, Steve (28 November 2012). "BP banned from federal contracts" (http://money.cnn.com/2012/11/28/news/economy/bp-ban/). CNN. Retrieved 1 December 2012.
346. Guegel, Anthony (31 January 2013). "US court accepts BP's Macondo guilty plea" (http://www.upstreamonline.com/hardcopy/news/article1315668.ece). *Upstream Online*. NHST Media Group. (subscription required). Retrieved 3 February 2013.
347. "BP Will Pay $4.5B in Plea Deal over Macondo" (https://www.rigzone.com/news/oil_gas/a/122140/BP_Will_Pay_45B_in_Plea_Deal_over_Macondo). *www.rigzone.com*. Retrieved 5 July 2018.
348. "Transocean Agrees to Plead Guilty to Environmental Crime and Enter Civil Settlement to Resolve U.S. Clean Water Act Penalty Claims from Deepwater Horizon Incident" (https://www.justice.gov/opa/pr/2013/January/13-ag-004.html). Department of Justice Office of Public Affairs. 3 January 2013. Retrieved 11 January 2013.
349. Krauss, Clifford (25 July 2013). "Halliburton Pleads Guilty to Destroying Evidence After Gulf Spill" (https://www.nytimes.com/2013/07/26/business/halliburton-pleads-guilty-to-destroying-evidence-after-gulf-spill.html). *The New York Times*. Retrieved 27 September 2013.
350. Young, Tom (15 January 2014). "Judges Call BP's Arguments "Nonsensical" " (http://neworleans.legalexaminer.com/toxic-substances/judges-call-bps-arguments-nonsensical/). *The Legal Examiner*. Retrieved 29 March 2016.
351. Lahav, Alexandra (15 October 2014). "The ideas that underly BP's cert petition don't make sense" (http://neworleans.legalexaminer.com/toxic-substances/professor-lahav-the-ideas-that-underly-bps-cert-petition-dont-make-sense/). *The Legal Examiner*. Retrieved 29 March 2016.
352. Young, Tom (8 December 2014). "BP's Appeal Fails to Interest Supreme Court, Cert Denied" (https://web.archive.org/web/20160322093654/http://tampa.legalexaminer.com/toxic-substances/bps-appeal-fails-to-interest-supreme-court-cert-denied/). *The Legal Examiner*. Archived from the original (http://tampa.legalexaminer.com/toxic-substances/bps-appeal-fails-to-interest-supreme-court-cert-denied/) on 22 March 2016. Retrieved 29 March 2016.
353. "Halliburton to pay around $1.1 bn for US oil spill claims" (https://www.reuters.com/article/2014/09/02/us-halliburton-settlement-macondo-idUSKBN0GX1DT20140902). *Reuters*. 2 September 2014. Retrieved 3 September 2014.
354. Thompson, Richard (5 April 2013). "BP to begin presenting its defense Monday in Gulf oil spill trial" (http://www.nola.com/news/gulf-oil-spill/index.ssf/2013/04/bp_to_begin_presenting_its_def.html). *The Times-Picayune*. Retrieved 13 April 2013.

355. Schmidt, Kathrine (25 February 2013). "Macondo trial gets under way" (http://www.upstreamonline.com/live/article1318253.ece). *Upstream Online*. NHST Media Group. Retrieved 26 February 2013.
356. Feeley, Jef; Johnson Jr., Allen (26 February 2013). "BP, Transocean Accused of 'Reckless' Actions in Spill" (http://www.businessweek.com/news/2013-02-25/bp-oil-spill-errors-trial-begins-in-new-orleans-court). Bloomberg. Retrieved 26 February 2013.
357. "Blame game kicks off in Macondo trial" (http://www.upstreamonline.com/live/article1318281.ece). *Upstream Online*. NHST Media Group. 26 February 2013. Retrieved 26 February 2013.
358. Plume, Karl (23 February 2013). "U.S. Justice, Gulf states crafting BP spill settlement" (http://uk.reuters.com/article/2013/02/23/uk-bp-spill-offer-idUKBRE91M0AG20130223). Reuters. Retrieved 24 February 2013.
359. "BP found "grossly negligent' in Gulf of Mexico oil spill" (http://www.neworleanssun.com/index.php/sid/225407625). New Orleans Sun. 4 September 2014. Retrieved 5 September 2014.
360. Fisk, Margaret Cronin; Calkins, Lauren Brubaker; Feeley, Jef (4 September 2014). "'Worst Case' BP Ruling on Gulf Spill Means Billions More in Penalties" (https://www.bloomberg.com/news/2014-09-04/bp-found-grossly-negligent-in-2010-gulf-of-mexico-spill.html). Bloomberg LLP. Retrieved 5 September 2014.
361. Rushe, Dominic (2 July 2015). "BP set to pay largest environmental fine in US history for Gulf oil spill" (https://www.theguardian.com/environment/2015/jul/02/bp-will-pay-largest-environmental-fine-in-us-history-for-gulf-oil-spill). *The Guardian*.
362. Ed Crooks, Christopher Adams. "BP: Into uncharted waters" (https://www.ft.com/cms/s/0/0a71ce8c-24b9-11e5-9c4e-a775d2b173ca.html). *ft.com*. Retrieved 10 August 2015.
363. Rudolf, John (24 April 2012). "Kurt Mix, BP Engineer, Faces First Oil Spill Charges" (http://www.huffingtonpost.com/2012/04/24/kurt-mix-bp-engineer-oil-spill_n_1449316.html). *Huffington Post*. Retrieved 17 November 2012.
364. "Feds File First Criminal Charges Related to BP Gulf Spill" (https://www.propublica.org/article/feds-file-first-criminal-charges-related-to-bp-gulf-spill). ProPublica. 24 April 2012. Retrieved 1 June 2012.
365. Fowler, Tom (4 April 2012). "First Criminal Charges Filed in Deepwater Horizon Accident" (https://blogs.wsj.com/law/2012/04/24/first-criminal-charges-filed-in-deepwater-horizon-accident/). *The Wall Street Journal*. Retrieved 19 February 2013.
366. Goldenberg, Suzanne; Rushe, Dominic (15 November 2012). "BP to pay $4.5bn penalty over Deepwater Horizon disaster" (https://www.theguardian.com/environment/2012/nov/15/bp-deepwater-horizon-gulf-oil-spill). *The Guardian*. London. Retrieved 17 November 2012.
367. Cronin Fisk, Margaret; Johnson Jr., Allen (28 November 2012). "BP Managers Plead Not Guilty to Deepwater Horizon Criminal Charges" (https://www.bloomberg.com/news/2012-11-28/three-bp-managers-appear-in-court-to-answer-spill-charges-1-.html). Bloomberg. Retrieved 19 February 2013.
368. "Halliburton manager gets 1 year probation in Gulf oil spill" (http://www.cbsnews.com/news/halliburton-manager-gets-1-year-probation-in-gulf-oil-spill/). *CBS News*.
369. "Halliburton manager gets 1 year probation in Gulf oil spill" (http://www.cbsnews.com/news/halliburton-manager-gets-1-year-probation-in-gulf-oil-spill/). *CBS News*.
370. "Blowout: Four years after his indictment, one of the only people prosecuted for the Deepwater Horizon explosion tells his side of the story" (http://www.texasmonthly.com/articles/deepwater-horizon-prosecution/). *Texas Monthly*. 21 September 2016.
371. Gill, James. "Disaster prosecution is, well, a disaster" (http://www.theadvocate.com/new_orleans/opinion/james_gill/article_16117cbb-81ae-5afd-9f02-df64fea8f8e3.html). *The New Orleans Advocate*.
372. Scott Tobias (22 June 2012). "The Newsroom: "We Just Decided To"" (https://tv.avclub.com/the-newsroom-we-just-decided-to-1798173264). *AV Club*. Retrieved 1 August 2018.
373. Kornblatt, Andrew (4 August 2015). "The Movie BP (Probably) Doesn't Want You To See" (http://voices.nationalgeographic.com/2015/08/04/the-movie-bp-probably-doesnt-want-you-to-see/). National Geographic Society. Retrieved 2 November 2016.
374. Campbell, Christopher (17 June 2015). "Nicolas Cage Gets Serious About the BP Oil Spill In The Runner Trailer" (https://filmschoolrejects.com/nicolas-cage-gets-serious-about-the-bp-oil-spill-in-the-the-runner-trailer-6208f9a50995). Film School Rejects. Retrieved 2 November 2016.
375. Grischow, Chad (14 March 2011). "Rise Against: Endgame Review" (http://www.ign.com/articles/2011/03/14/rise-against-endgame-review). *IGN*. Retrieved 14 March 2011.

Further reading

- Khatchadourian, Raffi (11 March 2011). "A Reporter at Large: The Gulf war" (http://www.newyorker.com/reporting/2011/03/14/110314fa_fact_khatchadourian). *The New Yorker*. **87** (4): 36–59. Retrieved 15 December 2013.
- Liu, Yonggang; MacFadyen, Amy; Ji, Zhen-Gang; Weisberg, Robert H. (2011). *Monitoring and Modeling the Deepwater Horizon Oil Spill: A Record-Breaking Enterprise* (http://www.agu.org/books/gm/v195/). *Washington DC American Geophysical Union Geophysical Monograph Series*. Geophysical Monograph Series. **195**. Bibcode:2011GMS...195.....L (https://ui.adsabs.harvard.edu/abs/2011GMS...195.....L). doi:10.1029/GM195 (https://doi.org/10.1029%2FGM195). ISBN 978-0-87590-485-6.
- Marghany, Maged (15 December 2014). "Utilization of a genetic algorithm for the automatic detection of oil spill from RADARSAT-2 SAR satellite data". *Marine Pollution Bulletin*. **89** (1–2): 20–29. doi:10.1016/j.marpolbul.2014.10.041 (https://doi.org/10.1016%2Fj.marpolbul.2014.10.041). PMID 25455367 (https://www.ncbi.nlm.nih.gov/pubmed/25455367).

External links

- Deepwater BP Oil Spill (https://web.archive.org/web/*/https://www.whitehouse.gov/issues/energy-and-environment/deepwater-bp-oil-spill) at the Wayback Machine (archive index) – at Whitehouse.gov
- Deepwater Horizon Incident, Gulf of Mexico (https://web.archive.org/web/20170707200242/http://deepwaterhorizon.noaa.gov/) from the National Oceanic and Atmospheric Administration (NOAA)
- RestoreTheGulf.gov (https://www.restorethegulf.gov/) official U.S. Government Web site, taking over content and functions from Deepwater Horizon Response site
- Smithsonian's Ocean Portal (https://web.archive.org/web/20100704120112/http://ocean.si.edu/ocean-and-you/gulf-oil-spill/)
- Science in a Time of Crisis: WHOI's response to the Deepwater Horizon Oil Spill (http://www.whoi.edu/deepwaterhorizon/) a multimedia presentation from Woods Hole Oceanographic Institution
- "Approaches for Ecosystem Services Valuation for the Gulf of Mexico After the *Deepwater Horizon* Oil Spill: Interim Report by the National Academy of Sciences" (http://www.nap.edu/catalog.php?record_id=13141)
- Erik Stokstad (8 February 2013). "BP Research Dollars Yield Signs of Cautious Hope" (http://www.sciencemag.org/content/339/6120/636.summary?sid=afdc38fe-36d8-4607-b42e-d0ee805ba72a). *Science*. **339** (6120): 636–637. Bibcode:2013Sci...339..636S (https://ui.adsabs.harvard.edu/abs/2013Sci...339..636S). doi:10.1126/science.339.6120.636 (https://doi.org/10.1126%2Fscience.339.6120.636). PMID 23393236 (https://www.ncbi.nlm.nih.gov/pubmed/23393236). Retrieved 25 February 2013.
- CDC – Oil Spill Response Resources – NIOSH Workplace Safety and Health Topic (https://www.cdc.gov/niosh/topics/oilspillresponse/)
- Daniel Kaniewski; James Carafano (9 August 2010). "Critical Lessons from the Federal Response to the Gulf Oil Spill" (http://www.heritage.org/research/reports/2010/08/critical-lessons-from-the-federal-response-to-the-gulf-oil-spill). The Heritage Foundation. Retrieved 31 July 2015.
- The Role of BP in the *Deepwater Horizon* Explosion and Oil Spill: Hearing before the Subcommittee on Oversight and Investigations of the Committee on Energy and Commerce, House of Representatives, One Hundred Eleventh Congress, Second Session, June 17, 2010 (https://purl.fdlp.gov/GPO/gpo35800)

Lead state agency websites

- Florida Department of Environmental Protection (DEP) (http://www.dep.state.fl.us/deepwaterhorizon/)
- Mississippi DEQ (http://www.deq.state.ms.us/MDEQ.nsf/page/Main_OilSpillLinksandPublicInformation2010?OpenDocument)
- State of Florida Oil Spill Academic Task Force (http://oilspill.fsu.edu/)

News media

- Full coverage (http://topics.nytimes.com/top/reference/timestopics/subjects/o/oil_spills/index.html) from *The New York Times*
- Full coverage (http://www.nola.com/news/gulf-oil-spill/) from *The Times-Picayune (New Orleans)*
- ScientificAmerican.com 2015-04020 BP Gulf Oil Spill: 5 Years Later Indepth Report (http://www.scientificamerican.com/report/bp-gulf-oil-spill-5-years-later/)

- *Deepwater Horizon* oil spill caused lasting damage, report says (http://cnso.nova.edu/news/articles/-deepwater-horizon-oil-spill-caused-lasting-damage,-report-says.html)
- BP Oil Spill (https://www.npr.org/tags/127868273/bp-oil-spill), NPR

Interactive maps

- Gulf Oil Spill Tracker (http://oilspill.skytruth.org/) interactive map and form for citizen reporting (SkyTruth.org)
- Map and Estimates of the Oil Spilled (https://www.nytimes.com/interactive/2010/05/01/us/20100501-oil-spill-tracker.html) (*New York Times*)
- Where Oil Has Made Landfall (https://www.nytimes.com/interactive/2010/05/27/us/20100527-oil-landfall.html) (*New York Times*)

Images

- Rig fire at *Deepwater Horizon* 4/21/10 (https://web.archive.org/web/20100426123407/http://www.ireport.com/docs/DOC-435316?hpt=C2), video at CNN iReport
- GOES-13 satellite images (http://cimss.ssec.wisc.edu/goes/blog/archives/5240) on the CIMSS Satellite Blog
- Underwater Video Examines Multiple Leak Points Causing BP Oil Spill (https://www.youtube.com/watch?v=RngYv4SYMCY)
- *The Big Fix*. Documentary about the oil spill (https://www.youtube.com/watch?v=_KgFBciS_X0)

Animations and graphics

- Gulf of Mexico Oil Spill Interactive: Smithsonian Ocean Portal (http://ocean.si.edu/gulf-oil-spill-interactive)
- BBC News – interactive animation to the disaster and blocking efforts (https://www.bbc.co.uk/news/10317116)
- *New York Times* (https://www.nytimes.com/interactive/2010/05/25/us/20100525-topkill-diagram.html) exploded view diagrams on the methods used to stop the oil spill
- Graphic: Where the oil and gas went (http://www.heraldtribune.com/apps/pbcs.dll/article?AID=/20120109/GRAPHICS02/120109575&template=graphics&tc=ar)
- OSHA produced blowout animation and technical explanation of cause of disaster (https://www.youtube.com/watch?v=9NQ8LehUWSE)

Retrieved from "https://en.wikipedia.org/w/index.php?title=Deepwater_Horizon_oil_spill&oldid=917988236"

This page was last edited on 26 September 2019, at 13:09 (UTC).

Text is available under the Creative Commons Attribution-ShareAlike License; additional terms may apply. By using this site, you agree to the Terms of Use and Privacy Policy. Wikipedia® is a registered trademark of the Wikimedia Foundation, Inc., a non-profit organization.